



**Financial products Markup Language**

## **FpML - Valuation Component Definitions**

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## ***1 Global Complex Types***

## 1.1 AssetValuation

### 1.1.1 Description:

A structure that holds a set of measures about an asset, including possibly their sensitivities.

### 1.1.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Valuation)

- A valuation of an valuable object - an asset or a pricing input. This is an abstract type, used as a base for values of pricing structures such as yield curves as well as asset values.

**quote** (one or more occurrences; of the type Quotation) One or more numerical measures relating to the asset, possibly together with sensitivities of that measure to pricing inputs.

**fxRate** (zero or one occurrence; of the type FxRate) Indicates the rate of a currency conversion that may have been used to compute valuations.

### 1.1.3 Used by:

- Complex type: Position
- Complex type: ValuationSet

### 1.1.4 Derived Types:

### 1.1.5 Figure:

### 1.1.6 Schema Fragment:

```
<xsd:complexType name="AssetValuation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A structure that holds a set of measures about an asset,
      including possibly their sensitivities.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Valuation">
      <xsd:sequence>
        <xsd:element name="quote" type="Quotation" maxOccurs="unbounded">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              One or more numerical measures relating to the asset,
              possibly together with sensitivities of that measure to
              pricing inputs.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
        <xsd:element name="fxRate" type="FxRate" minOccurs="0">
          <xsd:annotation>
            <xsd:documentation xml:lang="en">
              Indicates the rate of a currency conversion that may have
              been used to compute valuations.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```



## 1.2 DerivedValuationScenario

### 1.2.1 Description:

A valuation scenario that is derived from another valuation scenario.

### 1.2.2 Contents:

**name** (zero or one occurrence; of the type xsd:string) The (optional) name for this valuation scenario, used for understandability. For example "EOD Valuations".

**baseValuationScenario** (exactly one occurrence; of the type ValuationScenarioReference) An (optional) reference to a valuation scenario from which this one is derived.

**valuationDate** (zero or one occurrence; of the type IdentifiedDate) The (optional) date for which the assets are valued. If not present, the valuation date will be that of the base valuation scenario.

**marketReference** (zero or one occurrence; of the type MarketReference) A reference to the market environment used to price the asset. If not present, the market will be that of the base valuation scenario.

**shift** (zero or more occurrences; of the type PricingParameterShift) A collection of shifts to be applied to market inputs prior to computation of the derivative.

### 1.2.3 Used by:

### 1.2.4 Derived Types:

### 1.2.5 Figure:

### 1.2.6 Schema Fragment:

```
<xsd:complexType name="DerivedValuationScenario">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A valuation scenario that is derived from another valuation
      scenario.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The (optional) name for this valuation scenario, used for
          understandability. For example "EOD Valuations".
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="baseValuationScenario" type="ValuationScenarioReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          An (optional) reference to a valuation scenario from which
          this one is derived.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationDate" type="IdentifiedDate" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The (optional) date for which the assets are valued. If not
          present, the valuation date will be that of the base
          valuation scenario.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="marketReference" type="MarketReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the market environment used to price the
          asset. If not present, the market will be that of the base
          valuation scenario.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="shift" type="PricingParameterShift" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
```

```
<xsd:documentation xml:lang="en">
  A collection of shifts to be applied to market inputs prior
  to computation of the derivative.
</xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
```

## 1.3 MarketReference

### 1.3.1 Description:

Reference to a market structure.

### 1.3.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Reference)

- The abstract base class for all types which define intra-document pointers.

### 1.3.3 Used by:

- Complex type: DerivedValuationScenario
- Complex type: ValuationScenario

### 1.3.4 Derived Types:

### 1.3.5 Figure:

### 1.3.6 Schema Fragment:

```
<xsd:complexType name="MarketReference">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Reference to a market structure.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Reference">
      <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="Market"/>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

## 1.4 Position

### 1.4.1 Description:

A collection of related trades or positions and the corresponding aggregate exposures generated by these.

### 1.4.2 Contents:

**positionId** (exactly one occurrence; of the type PositionId) A version-independent identifier for the position, possibly based on trade identifier.

**version** (zero or one occurrence; of the type xsd:positiveInteger) A version identifier. Version identifiers must be ascending, i.e. higher numbers imply newer versions. There is no requirement that version identifiers for a position be sequential or small, so for example timestamp-based version identifiers could be used.

**reportingRoles** (zero or one occurrence; of the type ReportingRoles) Information about the roles of the parties with respect to reporting the positions.

**constituent** (exactly one occurrence; of the type PositionConstituent) The components that create this position.

**scheduledDate** (zero or more occurrences; of the type ScheduledDate) Position level schedule date, such as final payment dates, in a simple and flexible format.

**valuation** (zero or more occurrences; of the type AssetValuation) Valuation reported for the position, such as NPV or accrued interest. The asset/object references in the valuations should refer to the deal or components of the deal in the position, e.g. legs, streams, or underlyers.

### 1.4.3 Used by:

- Complex type: DefinePosition
- Complex type: PositionReport

### 1.4.4 Derived Types:

- Complex type: DefinePosition

### 1.4.5 Figure:

### 1.4.6 Schema Fragment:

```
<xsd:complexType name="Position">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A collection of related trades or positions and the corresponding
      aggregate exposures generated by these.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="PositionIdAndVersion.model"/>
    <xsd:element name="reportingRoles" type="ReportingRoles" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Information about the roles of the parties with respect to
          reporting the positions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="constituent" type="PositionConstituent">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The components that create this position.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="scheduledDate" type="ScheduledDate" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Position level schedule date, such as final payment dates, in
          a simple and flexible format.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuation" type="AssetValuation" minOccurs="0" maxOccurs="unbounded">
```

```
<xsd:annotation>
  <xsd:documentation xml:lang="en">
    Valuation reported for the position, such as NPV or accrued
    interest. The asset/object references in the valuations
    should refer to the deal or components of the deal in the
    position, e.g. legs, streams, or underlyers.
  </xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
```

## 1.5 PositionConstituent

### 1.5.1 Description:

The items (trades, trade references, holdings, other positions) that comprise this position. Currently a position may consist only of a single trade, a reference to a previously submitted position, or a reference to the trade. The choice structure is optional to allow extensions to be placed within this container.

### 1.5.2 Contents:

Either

**trade** (exactly one occurrence; of the type Trade) An element that allows the full details of the trade to be used as a mechanism for identifying the trade for which the post-trade event pertains.

Or

**positionVersionReference** (exactly one occurrence; of the type xsd:positiveInteger) A previously submitted version of the position.

Or

**tradeReference** (exactly one occurrence; of the type PartyTradeIdentifiers) The trade reference identifier(s) allocated to the trade by the parties involved.

### 1.5.3 Used by:

- Complex type: Position

### 1.5.4 Derived Types:

### 1.5.5 Figure:

### 1.5.6 Schema Fragment:

```
<xsd:complexType name="PositionConstituent">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The items (trades, trade references, holdings, other positions)
      that comprise this position. Currently a position may consist
      only of a single trade, a reference to a previously submitted
      position, or a reference to the trade. The choice structure is
      optional to allow extensions to be placed within this container.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice minOccurs="0">
    <xsd:element name="trade" type="Trade">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          An element that allows the full details of the trade to be
          used as a mechanism for identifying the trade for which the
          post-trade event pertains.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="positionVersionReference" type="xsd:positiveInteger">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A previously submitted version of the position.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="tradeReference" type="PartyTradeIdentifiers">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The trade reference identifier(s) allocated to the trade by
          the parties involved.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:complexType>
```

## 1.6 PositionId

### 1.6.1 Description:

A unique identifier for the position. The id attribute is defined for intradocument referencing.

### 1.6.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

### 1.6.3 Used by:

### 1.6.4 Derived Types:

### 1.6.5 Figure:

### 1.6.6 Schema Fragment:

```
<xsd:complexType name="PositionId">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A unique identifier for the position. The id attribute is defined
      for intradocument referencing.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="positionIdScheme" type="xsd:anyURI" />
      <xsd:attribute name="id" type="xsd:ID" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

## 1.7 PricingInputReplacement

### 1.7.1 Description:

The substitution of a pricing input (e.g. curve) for another, used in generating prices and risks for valuation scenarios.

### 1.7.2 Contents:

**originalInputReference** (exactly one occurrence; of the type PricingStructureReference) A reference to the original value of the pricing input.

**replacementInputReference** (exactly one occurrence; of the type PricingStructureReference) A reference to the substitution to do.

### 1.7.3 Used by:

- Complex type: ValuationScenario

### 1.7.4 Derived Types:

### 1.7.5 Figure:

### 1.7.6 Schema Fragment:

```
<xsd:complexType name="PricingInputReplacement">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The substitution of a pricing input (e.g. curve) for another,
      used in generating prices and risks for valuation scenarios.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="originalInputReference" type="PricingStructureReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the original value of the pricing input.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="replacementInputReference" type="PricingStructureReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the substitution to do.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```



## 1.8 Quotation

### 1.8.1 Description:

Some kind of numerical measure about an asset, eg. its NPV, together with characteristics of that measure, together with optional sensitivities.

### 1.8.2 Contents:

**value** (zero or one occurrence; of the type xsd:decimal) The value of the the quotation.

**sensitivitySet** (zero or more occurrences; of the type SensitivitySet) Zero or more sets of sensitivities of this measure to various input parameters.

### 1.8.3 Used by:

- Complex type: AssetValuation

### 1.8.4 Derived Types:

### 1.8.5 Figure:

### 1.8.6 Schema Fragment:

```
<xsd:complexType name="Quotation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Some kind of numerical measure about an asset, eg. its NPV,
      together with characteristics of that measure, together with
      optional sensitivities.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="Quotation.model"/>
    <xsd:element name="sensitivitySet" type="SensitivitySet" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Zero or more sets of sensitivities of this measure to various
          input parameters.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

## 1.9 ReportingRoles

### 1.9.1 Description:

The roles of the parties in reporting information such as positions.

### 1.9.2 Contents:

**baseParty** (exactly one occurrence; of the type PartyReference) A reference to the party from whose perspective the position is valued, ie. the owner or holder of the position.

**activityProvider** (zero or one occurrence; of the type PartyReference) A reference to the party responsible for reporting trading activities.

**positionProvider** (zero or one occurrence; of the type PartyReference) A reference to the party responsible for reporting the position itself and its constituents.

**valuationProvider** (zero or one occurrence; of the type PartyReference) A reference to the party responsible for calculating and reporting the valuations of the positions.

### 1.9.3 Used by:

- Complex type: Position

### 1.9.4 Derived Types:

### 1.9.5 Figure:

### 1.9.6 Schema Fragment:

```
<xsd:complexType name="ReportingRoles">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The roles of the parties in reporting information such as
      positions.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="baseParty" type="PartyReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the party from whose perspective the position
          is valued, ie. the owner or holder of the position.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="activityProvider" type="PartyReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the party responsible for reporting trading
          activities.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="positionProvider" type="PartyReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the party responsible for reporting the
          position itself and its constituents.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationProvider" type="PartyReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the party responsible for calculating and
          reporting the valuations of the positions.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

## 1.10 RequestedPositions

### 1.10.1 Description:

A definition of the positions that are requested.

### 1.10.2 Contents:

Either

**queryPortfolio** (exactly one occurrence; of the type QueryPortfolio) The desired query portfolio.

### 1.10.3 Used by:

- Complex type: RequestPortfolio
- Complex type: RequestPositionReport

### 1.10.4 Derived Types:

### 1.10.5 Figure:

### 1.10.6 Schema Fragment:

```
<xsd:complexType name="RequestedPositions">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A definition of the positions that are requested.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="queryPortfolio" type="QueryPortfolio">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The desired query portfolio.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:group ref="PositionIdAndVersion.model"/>
  </xsd:choice>
</xsd:complexType>
```

## 1.11 ScheduledDate

### 1.11.1 Description:

An servicing date relevant for a trade structure, such as a payment or a reset.

### 1.11.2 Contents:

Either

**adjustedDate** (exactly one occurrence; of the type xsd:date)

**type** (exactly one occurrence; of the type ScheduledDateType) The type of the date, e.g. next or previous payment.

**assetReference** (zero or one occurrence; of the type AnyAssetReference) A reference to the leg (or other product component) for which these dates occur.

Either

**associatedValue** (exactly one occurrence; of the type AssetValuation) The value that is associated with the scheduled date.

Or

**associatedValueReference** (exactly one occurrence; of the type ValuationReference) A reference to the value associated with this scheduled date.

### 1.11.3 Used by:

- Complex type: Position
- Complex type: ScheduledDates

### 1.11.4 Derived Types:

### 1.11.5 Figure:

### 1.11.6 Schema Fragment:

```
<xsd:complexType name="ScheduledDate">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An servicing date relevant for a trade structure, such as a
      payment or a reset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="AdjustedAndOrUnadjustedDate.model"/>
    <xsd:element name="type" type="ScheduledDateType">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The type of the date, e.g. next or previous payment.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="assetReference" type="AnyAssetReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the leg (or other product component) for which
          these dates occur.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:group ref="AssociatedValue.model" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

## 1.12 ScheduledDates

### 1.12.1 Description:

A list of dates (cash flows, resets, etc.) that are relevant for this structure, e.g. next cash flow, last reset, etc. Provides a way to list upcoming or recent servicing dates related to this trade stream in a way that is simpler and more flexible than the FpML "cashflows" structure.

### 1.12.2 Contents:

**scheduledDate** (one or more occurrences; of the type ScheduledDate) A single stream level scheduled servicing date.

### 1.12.3 Used by:

### 1.12.4 Derived Types:

### 1.12.5 Figure:

### 1.12.6 Schema Fragment:

```
<xsd:complexType name="ScheduledDates">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A list of dates (cash flows, resets, etc.) that are relevant for
      this structure, e.g. next cash flow, last reset, etc. Provides a
      way to list upcoming or recent servicing dates related to this
      trade stream in a way that is simpler and more flexible than the
      FpML "cashflows" structure.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="scheduledDate" type="ScheduledDate" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A single stream level scheduled servicing date.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

## 1.13 ScheduledDateType

### 1.13.1 Description:

A scheme used to identify the type of a stream scheduled servicing date.

### 1.13.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

- 

### 1.13.3 Used by:

- Complex type: ScheduledDate

### 1.13.4 Derived Types:

### 1.13.5 Figure:

### 1.13.6 Schema Fragment:

```
<xsd:complexType name="ScheduledDateType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A scheme used to identify the type of a stream scheduled
      servicing date.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="scheduledDateTypeScheme" type="xsd:anyURI" default="http://www.fpm1
    </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>
```

## 1.14 Sensitivity

### 1.14.1 Description:

The sensitivity of a value to a defined change in input parameters.

### 1.14.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:decimal)

•

### 1.14.3 Used by:

- Complex type: SensitivitySet

### 1.14.4 Derived Types:

### 1.14.5 Figure:

### 1.14.6 Schema Fragment:

```
<xsd:complexType name="Sensitivity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The sensitivity of a value to a defined change in input
      parameters.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:decimal">
      <xsd:attribute name="name" type="xsd:normalizedString">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A optional name for this sensitivity. This is primarily
            intended for display purposes.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="definitionRef" type="xsd:IDREF">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A optional (but normally supplied) reference to the
            definition of this sensitivity.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

## 1.15 SensitivitySet

### 1.15.1 Description:

A collection of sensitivities. References a definition that explains the meaning/type of the sensitivities.

### 1.15.2 Contents:

**name** (zero or one occurrence; of the type xsd:string)

**definitionReference** (zero or one occurrence; of the type SensitivitySetReference) A reference to a sensitivity set definition.

**sensitivity** (zero or more occurrences; of the type Sensitivity)

### 1.15.3 Used by:

- Complex type: Quotation

### 1.15.4 Derived Types:

### 1.15.5 Figure:

### 1.15.6 Schema Fragment:

```
<xsd:complexType name="SensitivitySet">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A collection of sensitivities. References a definition that
      explains the meaning/type of the sensitivities.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minOccurs="0"/>
    <xsd:element name="definitionReference" type="SensitivitySetReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to a sensitivity set definition.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="sensitivity" type="Sensitivity" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
```



## 1.16 SensitivitySetReference

### 1.16.1 Description:

Reference to a sensitivity set.

### 1.16.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type Reference)

- The abstract base class for all types which define intra-document pointers.

### 1.16.3 Used by:

- Complex type: SensitivitySet

### 1.16.4 Derived Types:

### 1.16.5 Figure:

### 1.16.6 Schema Fragment:

```
<xsd:complexType name="SensitivitySetReference">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Reference to a sensitivity set.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:complexContent>
    <xsd:extension base="Reference">
      <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="SensitivitySe
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
```

## 1.17 Valuations

### 1.17.1 Description:

A set of valuation.

### 1.17.2 Contents:

Either

**valuation** (exactly one occurrence; of the type AssetValuation)

Or

**valuationReference** (exactly one occurrence; of the type ValuationReference) A reference to a quotation

### 1.17.3 Used by:

### 1.17.4 Derived Types:

### 1.17.5 Figure:

### 1.17.6 Schema Fragment:

```
<xsd:complexType name="Valuations">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A set of valuation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="AssetValuationOrReference.model" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
```

## 1.18 ValuationScenario

### 1.18.1 Description:

A set of rules for generating a valuation.

### 1.18.2 Contents:

**name** (zero or one occurrence; of the type xsd:string) The (optional) name for this valuation scenario, used for understandability. For example "EOD Valuations".

**valuationDate** (exactly one occurrence; of the type IdentifiedDate) The date for which the assets are valued.

**marketReference** (zero or one occurrence; of the type MarketReference) A reference to the market environment used to price the asset.

**shift** (zero or more occurrences; of the type PricingParameterShift) A collection of shifts to be applied to market inputs prior to computation of the derivative.

**replacement** (zero or more occurrences; of the type PricingInputReplacement) A collection of shifts to be applied to market inputs prior to computation of the derivative.

### 1.18.3 Used by:

- Complex type: ValuationSet

### 1.18.4 Derived Types:

### 1.18.5 Figure:

### 1.18.6 Schema Fragment:

```
<xsd:complexType name="ValuationScenario">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A set of rules for generating a valuation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The (optional) name for this valuation scenario, used for
          understandability. For example "EOD Valuations".
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationDate" type="IdentifiedDate">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The date for which the assets are valued.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="marketReference" type="MarketReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the market environment used to price the
          asset.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="shift" type="PricingParameterShift" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A collection of shifts to be applied to market inputs prior
          to computation of the derivative.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="replacement" type="PricingInputReplacement" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A collection of shifts to be applied to market inputs prior
          to computation of the derivative.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>

```

```
        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:ID"/>
  </xsd:complexType>
```

## 1.19 ValuationSet

### 1.19.1 Description:

A set of valuation inputs and results. This structure can be used for requesting valuations, or for reporting them. In general, the request fills in fewer elements.

### 1.19.2 Contents:

**name** (zero or one occurrence; of the type xsd:string) The name of the valuation set, used to understand what it means. E.g., "EOD Values and Risks for Party A".

**valuationScenario** (zero or more occurrences; of the type ValuationScenario) Valuation scenarios used (requested/reported) in this valuation set. E.g., the EOD valuation scenario for a particular value date. Used for the first occurrence of a valuation scenario in a document.

**valuationScenarioReference** (zero or more occurrences; of the type ValuationScenarioReference) References to valuation scenarios used (requested/reported) in this valuation set. E.g., a reference to the EOD valuation scenario for a particular value date. Used for subsequent occurrences of a valuation set in an FpML document.

**baseParty** (zero or one occurrence; of the type PartyReference) Reference to the party from whose point of view the assets are valued.

**quotationCharacteristics** (zero or more occurrences; of the type QuotationCharacteristics) Characteristics (measure types, units, sides, etc.) of the quotes used (requested/reported) in the valuation set.

**sensitivitySetDefinition** (zero or more occurrences; of the type SensitivitySetDefinition) Definition(s) of sensitivity sets used (requested or reported) in this valuation set.

**detail** (zero or one occurrence; of the type ValuationSetDetail) Does this valuation set include a market environment?

**assetValuation** (zero or more occurrences; of the type AssetValuation) Valuations reported in this valuation set. These values can be values (NPVs, prices, etc.) or risks (DAR, etc.) and can include sensitivities.

### 1.19.3 Used by:

- Element: valuationSet

### 1.19.4 Derived Types:

### 1.19.5 Figure:

### 1.19.6 Schema Fragment:

```
<xsd:complexType name="ValuationSet">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A set of valuation inputs and results. This structure can be used
      for requesting valuations, or for reporting them. In general, the
      request fills in fewer elements.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The name of the valuation set, used to understand what it
          means. E.g., "EOD Values and Risks for Party A".
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationScenario" type="ValuationScenario" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Valuation scenarios used (requested/reported) in this
          valuation set. E.g., the EOD valuation scenario for a
          particular value date. Used for the first occurrence of a
          valuation scenario in a document.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationScenarioReference" type="ValuationScenarioReference" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          References to valuation scenarios used (requested/reported) in this
          valuation set. E.g., a reference to the EOD valuation scenario for a
          particular value date. Used for subsequent occurrences of a valuation
          set in an FpML document.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>

```

```

<xsd:annotation>
  <xsd:documentation xml:lang="en">
    References to valuation scenarios used (requested/reported)
    in this valuation set. E.g, a reference to the EOD valuation
    scenario for a particular value date. Used for subsequence
    occurrences of a valuation set in an FpML document.
  </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="baseParty" type="PartyReference" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Reference to the party from whose point of view the assets
      are valued.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="quotationCharacteristics" type="QuotationCharacteristics" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Characteristics (measure types, units, sides, etc.) of the
      quotes used (requested/reported) in the valuation set.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="sensitivitySetDefinition" type="SensitivitySetDefinition" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Definition(s) of sensitivity sets used (requested or
      reported) in this valuation set.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="detail" type="ValuationSetDetail" minOccurs="0">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Does this valuation set include a market environment?
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="assetValuation" type="AssetValuation" minOccurs="0" maxOccurs="unbounded">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Valuations reported in this valuation set. These values can
      be values (NPVs, prices, etc.) or risks (DAR, etc.) and can
      include sensitivities.
    </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>

```

## 1.20 ValuationSetDetail

### 1.20.1 Description:

The amount of detail provided in the valuation set, e.g. is market environment data provided, are risk definitions provided, etc.

### 1.20.2 Contents:

Inherited element(s): (This definition inherits the content defined by the type xsd:normalizedString)

•

### 1.20.3 Used by:

- Complex type: ValuationSet

### 1.20.4 Derived Types:

### 1.20.5 Figure:

### 1.20.6 Schema Fragment:

```
<xsd:complexType name="ValuationSetDetail">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The amount of detail provided in the valuation set, e.g. is
      market environment data provided, are risk definitions provided,
      etc.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="valuationSetDetailScheme" type="xsd:anyURI" />
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
```

## ***2 Global Elements***



## **2.1 valuationSet**

### **2.1.1 Description:**

### **2.1.2 Contents:**

Element valuationSet is defined by the complex type ValuationSet

### **2.1.3 Used by:**

- Complex type: PortfolioValuationItem
- Complex type: TradeValuationItem
- Complex type: ValuationDocument

### **2.1.4 Substituted by:**

### **2.1.5 Figure:**

### **2.1.6 Schema Fragment:**

```
<xsd:element name="valuationSet" type="ValuationSet"/>
```

**3 Groups**

## 3.1 AdjustedAndOrUnadjustedDate.model

### 3.1.1 Description:

Contains at least one of an adjusted date and and unadjusted date, using the usual meanings of those terms.

### 3.1.2 Contents:

Either

**adjustedDate** (exactly one occurrence; of the type xsd:date)

### 3.1.3 Used by:

- Complex type: ScheduledDate

### 3.1.4 Figure:

### 3.1.5 Schema Fragment:

```
<xsd:group name="AdjustedAndOrUnadjustedDate.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Contains at least one of an adjusted date and and unadjusted
      date, using the usual meanings of those terms.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:sequence>
      <xsd:element name="unadjustedDate" type="xsd:date"/>
      <xsd:element name="adjustedDate" type="xsd:date" minOccurs="0"/>
    </xsd:sequence>
    <xsd:element name="adjustedDate" type="xsd:date"/>
  </xsd:choice>
</xsd:group>
```

## 3.2 AssetValuationOrReference.model

### 3.2.1 Description:

A quotation or a reference to a quotation.

### 3.2.2 Contents:

Either

**valuation** (exactly one occurrence; of the type AssetValuation)

Or

**valuationReference** (exactly one occurrence; of the type ValuationReference) A reference to a quotation

### 3.2.3 Used by:

- Complex type: Valuations

### 3.2.4 Figure:

### 3.2.5 Schema Fragment:

```
<xsd:group name="AssetValuationOrReference.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A quotation or a reference to a quotation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="valuation" type="AssetValuation">
      <xsd:annotation>
        <xsd:documentation xml:lang="en"/>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="valuationReference" type="ValuationReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to a quotation
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:group>
```

## 3.3 AssociatedValue.model

### 3.3.1 Description:

An associated value or reference for a scheduled date.

### 3.3.2 Contents:

Either

**associatedValue** (exactly one occurrence; of the type AssetValuation) The value that is associated with the scheduled date.

Or

**associatedValueReference** (exactly one occurrence; of the type ValuationReference) A reference to the value associated with this scheduled date.

### 3.3.3 Used by:

- Complex type: ScheduledDate

### 3.3.4 Figure:

### 3.3.5 Schema Fragment:

```
<xsd:group name="AssociatedValue.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An associated value or reference for a scheduled date.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="associatedValue" type="AssetValuation">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The value that is associated with the scheduled date.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="associatedValueReference" type="ValuationReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the value associated with this scheduled date.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:choice>
</xsd:group>
```

## 3.4 PositionIdAndVersion.model

### 3.4.1 Description:

A model group that includes a position ID and an optional version.

### 3.4.2 Contents:

**positionId** (exactly one occurrence; of the type PositionId) A version-independent identifier for the position, possibly based on trade identifier.

**version** (zero or one occurrence; of the type xsd:positiveInteger) A version identifier. Version identifiers must be ascending, i.e. higher numbers imply newer versions. There is no requirement that version identifiers for a position be sequential or small, so for example timestamp-based version identifiers could be used.

### 3.4.3 Used by:

- Complex type: AssertedPosition
- Complex type: Position
- Complex type: PositionProposedMatch
- Complex type: PositionReference
- Complex type: RequestedPositions
- Complex type: UnprocessedPosition

### 3.4.4 Figure:

### 3.4.5 Schema Fragment:

```
<xsd:group name="PositionIdAndVersion.model">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A model group that includes a position ID and an optional
      version.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="positionId" type="PositionId">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A version-independent identifier for the position, possibly
          based on trade identifier.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="version" type="xsd:positiveInteger" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A version identifier. Version identifiers must be ascending,
          i.e. higher numbers imply newer versions. There is no
          requirement that version identifiers for a position be
          sequential or small, so for example timestamp-based version
          identifiers could be used.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:group>
```

## 4 Schema listing

```
<xsd:schema ecore:nsPrefix="fpml" ecore:package="org.fpml" ecore:documentRoot="FpML" targetNameSpace="http://www.fpml.org/FpML-5" >
  <xsd:include schemaLocation="fpml-riskdef-4-3.xsd"/>
  <xsd:include schemaLocation="fpml-doc-4-3.xsd"/>
  <xsd:complexType name="AssetValuation">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A structure that holds a set of measures about an asset,
        including possibly their sensitivities.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
      <xsd:extension base="Valuation">
        <xsd:sequence>
          <xsd:element name="quote" type="Quotation" maxOccurs="unbounded">
            <xsd:annotation>
              <xsd:documentation xml:lang="en">
                One or more numerical measures relating to the asset,
                possibly together with sensitivities of that measure to
                pricing inputs.
              </xsd:documentation>
            </xsd:annotation>
          </xsd:element>
          <xsd:element name="fxRate" type="FxRate" minOccurs="0">
            <xsd:annotation>
              <xsd:documentation xml:lang="en">
                Indicates the rate of a currency conversion that may
                have been used to compute valuations.
              </xsd:documentation>
            </xsd:annotation>
          </xsd:element>
        </xsd:sequence>
      </xsd:extension>
    </xsd:complexContent>
  </xsd:complexType>
  <xsd:complexType name="DerivedValuationScenario">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A valuation scenario that is derived from another valuation
        scenario.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="name" type="xsd:string" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The (optional) name for this valuation scenario, used for
            understandability. For example "EOD Valuations".
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="baseValuationScenario" type="ValuationScenarioReference">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            An (optional) reference to a valuation scenario from which
            this one is derived.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="valuationDate" type="IdentifiedDate" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            The (optional) date for which the assets are valued. If not
            present, the valuation date will be that of the base
            valuation scenario.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="marketReference" type="MarketReference" minOccurs="0">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            A reference to the market environment used to price the
            asset. If not present, the market will be that of the base
            valuation scenario.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:element>
      <xsd:element name="shift" type="PricingParameterShift" minOccurs="0" maxOccurs="unbounded">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
```

```

        A collection of shifts to be applied to market inputs prior
        to computation of the derivative.
    </xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
<xsd:complexType name="MarketReference">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            Reference to a market structure.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:complexContent>
        <xsd:extension base="Reference">
            <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="Market"/>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Position">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A collection of related trades or positions and the
            corresponding aggregate exposures generated by these.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:group ref="PositionIdAndVersion.model"/>
        <xsd:element name="reportingRoles" type="ReportingRoles" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Information about the roles of the parties with respect to
                    reporting the positions.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="constituent" type="PositionConstituent">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The components that create this position.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="scheduledDate" type="ScheduledDate" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Position level schedule date, such as final payment dates,
                    in a simple and flexible format.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="valuation" type="AssetValuation" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    Valuation reported for the position, such as NPV or accrued
                    interest. The asset/object references in the valuations
                    should refer to the deal or components of the deal in the
                    position, e.g. legs, streams, or underlyers.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
<xsd:complexType name="PositionId">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A unique identifier for the position. The id attribute is
            defined for intradocument referencing.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
        <xsd:extension base="xsd:normalizedString">
            <xsd:attribute name="positionIdScheme" type="xsd:anyURI"/>
            <xsd:attribute name="id" type="xsd:ID"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="PositionConstituent">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            The items (trades, trade references, holdings, other positions)

```



that comprise this position. Currently a position may consist only of a single trade, a reference to a previously submitted position, or a reference to the trade. The choice structure is optional to allow extensions to be placed within this container.

```
</xsd:documentation>
</xsd:annotation>
<xsd:choice minOccurs="0">
  <xsd:element name="trade" type="Trade">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        An element that allows the full details of the trade to be
        used as a mechanism for identifying the trade for which the
        post-trade event pertains.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="positionVersionReference" type="xsd:positiveInteger">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A previously submitted version of the position.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="tradeReference" type="PartyTradeIdentifiers">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        The trade reference identifier(s) allocated to the trade by
        the parties involved.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:choice>
</xsd:complexType>
<xsd:complexType name="PricingInputReplacement">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The substitution of a pricing input (e.g. curve) for another,
      used in generating prices and risks for valuation scenarios.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="originalInputReference" type="PricingStructureReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the original value of the pricing input.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="replacementInputReference" type="PricingStructureReference">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the substitution to do.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Quotation">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      Some kind of numerical measure about an asset, eg. its NPV,
      together with characteristics of that measure, together with
      optional sensitivities.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="Quotation.model"/>
    <xsd:element name="sensitivitySet" type="SensitivitySet" minOccurs="0" maxOccurs="unbound">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          Zero or more sets of sensitivities of this measure to
          various input parameters.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ReportingRoles">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The roles of the parties in reporting information such as
      positions.
    </xsd:documentation>
  </xsd:annotation>
```

```

</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
  <xsd:element name="baseParty" type="PartyReference">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A reference to the party from whose perspective the
        position is valued, ie. the owner or holder of the
        position.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="activityProvider" type="PartyReference" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A reference to the party responsible for reporting trading
        activities.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="positionProvider" type="PartyReference" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A reference to the party responsible for reporting the
        position itself and its constituents.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="valuationProvider" type="PartyReference" minOccurs="0">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A reference to the party responsible for calculating and
        reporting the valuations of the positions.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="RequestedPositions">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A definition of the positions that are requested.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:choice>
    <xsd:element name="queryPortfolio" type="QueryPortfolio">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The desired query portfolio.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:group ref="PositionIdAndVersion.model"/>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="ScheduledDate">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      An servicing date relevant for a trade structure, such as a
      payment or a reset.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:group ref="AdjustedAndOrUnadjustedDate.model"/>
    <xsd:element name="type" type="ScheduledDateType">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          The type of the date, e.g. next or previous payment.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="assetReference" type="AnyAssetReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to the leg (or other product component) for
          which these dates occur.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:group ref="AssociatedValue.model" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ScheduledDates">

```

```

<xsd:annotation>
  <xsd:documentation xml:lang="en">
    A list of dates (cash flows, resets, etc.) that are relevant
    for this structure, e.g. next cash flow, last reset, etc.
    Provides a way to list upcoming or recent servicing dates
    related to this trade stream in a way that is simpler and more
    flexible than the FpML "cashflows" structure.
  </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
  <xsd:element name="scheduledDate" type="ScheduledDate" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        A single stream level scheduled servicing date.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ScheduledDateType">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A scheme used to identify the type of a stream scheduled
      servicing date.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="scheduledDateTypeScheme" type="xsd:anyURI" default="http://www.fpr
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="Sensitivity">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The sensitivity of a value to a defined change in input
      parameters.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:decimal">
      <xsd:attribute name="name" type="xsd:normalizedString">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            An optional name for this sensitivity. This is primarily
            intended for display purposes.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
      <xsd:attribute name="definitionRef" type="xsd:IDREF">
        <xsd:annotation>
          <xsd:documentation xml:lang="en">
            An optional (but normally supplied) reference to the
            definition of this sensitivity.
          </xsd:documentation>
        </xsd:annotation>
      </xsd:attribute>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="SensitivitySet">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      A collection of sensitivities. References a definition that
      explains the meaning/type of the sensitivities.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="name" type="xsd:string" minOccurs="0"/>
    <xsd:element name="definitionReference" type="SensitivitySetReference" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation xml:lang="en">
          A reference to a sensitivity set definition.
        </xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="sensitivity" type="Sensitivity" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
<xsd:complexType name="SensitivitySetReference">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">

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```

        Reference to a sensitivity set.
    </xsd:documentation>
</xsd:annotation>
<xsd:complexContent>
    <xsd:extension base="Reference">
        <xsd:attribute name="href" type="xsd:IDREF" use="required" ecore:reference="Sensitivity">
            </xsd:attribute>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="Valuations">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A set of valuation.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:group ref="AssetValuationOrReference.model" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ValuationScenario">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A set of rules for generating a valuation.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="name" type="xsd:string" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The (optional) name for this valuation scenario, used for
                    understandability. For example "EOD Valuations".
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="valuationDate" type="IdentifiedDate">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The date for which the assets are valued.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="marketReference" type="MarketReference" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A reference to the market environment used to price the
                    asset.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="shift" type="PricingParameterShift" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A collection of shifts to be applied to market inputs prior
                    to computation of the derivative.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="replacement" type="PricingInputReplacement" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A collection of shifts to be applied to market inputs prior
                    to computation of the derivative.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
    <xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
<xsd:complexType name="ValuationSet">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A set of valuation inputs and results. This structure can be
            used for requesting valuations, or for reporting them. In
            general, the request fills in fewer elements.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="name" type="xsd:string" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The name of the valuation set, used to understand what it
                    means. E.g., "EOD Values and Risks for Party A".
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>

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    </xsd:annotation>
  </xsd:element>
  <xsd:element name="valuationScenario" type="ValuationScenario" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Valuation scenarios used (requested/reported) in this valuation set. E.g., the EOD valuation scenario for a particular value date. Used for the first occurrence of a valuation scenario in a document.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="valuationScenarioReference" type="ValuationScenarioReference" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        References to valuation scenarios used (requested/reported) in this valuation set. E.g., a reference to the EOD valuation scenario for a particular value date. Used for subsequent occurrences of a valuation set in an FpML document.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="baseParty" type="PartyReference" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Reference to the party from whose point of view the assets are valued.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="quotationCharacteristics" type="QuotationCharacteristics" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Characteristics (measure types, units, sides, etc.) of the quotes used (requested/reported) in the valuation set.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="sensitivitySetDefinition" type="SensitivitySetDefinition" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Definition(s) of sensitivity sets used (requested or reported) in this valuation set.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="detail" type="ValuationSetDetail" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Does this valuation set include a market environment?
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="assetValuation" type="AssetValuation" minOccurs="0" maxOccurs="unbounded">
    <xsd:annotation>
      <xsd:documentation xml:lang="en">
        Valuations reported in this valuation set. These values can be values (NPVs, prices, etc.) or risks (DAR, etc.) and can include sensitivities.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
<xsd:attribute name="id" type="xsd:ID"/>
</xsd:complexType>
<xsd:complexType name="ValuationSetDetail">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The amount of detail provided in the valuation set, e.g. is market environment data provided, are risk definitions provided, etc.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:normalizedString">
      <xsd:attribute name="valuationSetDetailScheme" type="xsd:anyURI"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>
<xsd:element name="valuationSet" type="ValuationSet"/>
<xsd:group name="AdjustedAndOrUnadjustedDate.model">
  <xsd:annotation>

```

```

    <xsd:documentation xml:lang="en">
        Contains at least one of an adjusted date and and unadjusted
        date, using the usual meanings of those terms.
    </xsd:documentation>
</xsd:annotation>
<xsd:choice>
    <xsd:sequence>
        <xsd:element name="unadjustedDate" type="xsd:date"/>
        <xsd:element name="adjustedDate" type="xsd:date" minOccurs="0"/>
    </xsd:sequence>
    <xsd:element name="adjustedDate" type="xsd:date"/>
</xsd:choice>
</xsd:group>
<xsd:group name="AssetValuationOrReference.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A quotation or a reference to a quotation.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:choice>
        <xsd:element name="valuation" type="AssetValuation">
            <xsd:annotation>
                <xsd:documentation xml:lang="en"/>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="valuationReference" type="ValuationReference">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A reference to a quotation
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:choice>
</xsd:group>
<xsd:group name="AssociatedValue.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            An associated value or reference for a scheduled date.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:choice>
        <xsd:element name="associatedValue" type="AssetValuation">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    The value that is associated with the scheduled date.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="associatedValueReference" type="ValuationReference">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A reference to the value associated with this scheduled
                    date.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:choice>
</xsd:group>
<xsd:group name="PositionIdAndVersion.model">
    <xsd:annotation>
        <xsd:documentation xml:lang="en">
            A model group that includes a position ID and an optional
            version.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="positionId" type="PositionId">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A version-independent identifier for the position, possibly
                    based on trade identifier.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="version" type="xsd:positiveInteger" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation xml:lang="en">
                    A version identifier. Version identifiers must be
                    ascending, i.e. higher numbers imply newer versions. There
                    is no requirement that version identifiers for a position
                    be sequential or small, so for example timestamp-based
                    version identifiers could be used.
                </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>

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        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:group>
</xsd:schema>
```