

## 5.1. Complex type AttributeDesignatorType

The **AttributeDesignatorType** complex type is the base type for elements and extensions that refer to **named attributes**. A **named attribute** has specific criteria with which to match attributes within a specific part of the <xacml-context:Request> element. The **AttributeDesignatorType** complex type specifies the attributes used for the match criteria that are common to all **named attributes**. Elements and extensions of the **AttributeDesignatorType** complex type MAY determine the presence of **named attributes** or select **attribute values** associated with **attributes** that match **named attributes**. Elements and extensions of the **AttributeDesignatorType** SHALL NOT alter or override the match semantics.

```
<xs:complexType name="AttributeDesignatorType">
  <xs:attribute name="AttributeId" type="xs:anyURI" use="required"/>
  <xs:attribute name="DataType" type="xs:anyURI" use="required"/>
  <xs:attribute name="Issuer" type="xs:anyURI" use="optional"/>
  <xs:attribute name="MustBePresent" type="xs:boolean" use="optional"/>
</xs:complexType>
```

A **named resource attribute** SHALL match a **resource attribute** if the values of their respective `AttributeId`, `DataType`, and `Issuer` attributes match. The `AttributeId` attribute MUST match, by URI equality, that of the `AttributeId` attribute of the **attribute**. The `DataType` attribute MUST match, by QName equality, that of the `DataType` attribute of the same **attribute**. If the `Issuer` attribute is supplied, it MUST match, by URI equality, the `Issuer` attribute of the same **attribute**. If the `Issuer` attribute is not supplied, the matching of the **named attribute** SHALL be governed by `AttributeId` and `DataType` attributes alone, regardless of the presence, absence, or actual value of the `Issuer` attribute of the otherwise matching **attribute**.

The <AttributeDesignatorType> contains the following attributes:

`AttributeId` [Required]

This attribute SHALL specify the `AttributeId` with which to match the **attribute**.

`DataType` [Required]

This attribute SHALL specify the `DataType` with which to match the **attribute**.

`Issuer` [Optional]

This attribute, if supplied, SHALL specify the `Issuer` with which to match the **attribute**.

`MustBePresent` [Optional]

This attribute governs the whether the element returns **indeterminate** in the case of the absence of the **named attribute**. If the **named attribute** is absent and `MustBePresent` is set to `true`, this element SHALL result in **indeterminate**. If `MustBePresent` is not supplied, its default value SHALL be `false`.

## 5.2. Element <ResourceAttributesPresent>

40 The <ResourceAttributeIsPresent> element determines whether a **named resource**  
41 **attribute** is present. A **resource attribute** is an **attribute** that SHALL only be located within the  
42 <Resource> element of the <xacml-context:Request> element. A **named resource**  
43 **attribute** has specific criteria (described below) with which to match a **resource attribute**. A  
44 **named resource attribute** SHALL be considered *present*, i.e. *not absent*, if there is at least one  
45 **resource attribute** that matches the criteria.

46 The <ResourceAttributeIsPresent> element SHALL result in **true** if its **named resource**  
47 **attribute** is present. A result of **true** SHALL mean that a <ResourceAttributeDesignator>  
48 element for this **named resource attribute** SHALL return a bag consisting of at least one **attribute**  
49 **value**. The **MustBePresent** attribute governs whether this element returns **false** or **indeterminate**  
50 in the case of the absence of the **named resource attribute**. If the **named resource attribute** is  
51 not present and the **MustBePresent** attribute is set to **false** (its default value) this element  
52 SHALL result in **false**. If the **named resource attribute** is not present and the **MustBePresent**  
53 attribute is set to **true**, this element SHALL result in **indeterminate**. Regardless of the  
54 **MustBePresent** attribute, if it cannot be determined whether the **named resource attribute** is  
55 present or not present in the request context, or the value of the **named resource attribute** is  
56 unavailable, then the expression SHALL result in **indeterminate**.

57 A **named resource attribute** SHALL be considered present if at least one **resource attribute**  
58 exists that matches the values of its corresponding **AttributeId**, **Data Type**, and **Issuer**  
59 attributes as per the match semantics of the **AttributeDesignatorType** specification [Section 5.1].

60 The <ResourceAttributeIsPresent> MAY be passed to the <Apply> element as an  
61 argument.

62

```
63 <xs:element name="ResourceAttributeIsPresent"  
64           type="xacml:AttributeDesignatorType" />
```

65

66 The <ResourceAttributeIsPresent> element is of the **AttributeDesignatorType** complex  
67 type.

68 The <ResourceAttributeIsPresent> element has the following attributes:

69 **AttributeId** [Required]

70 This attribute SHALL specify the **AttributeId** with which to match the **resource**  
71 **attribute**.

72 **Data Type** [Required]

73 This attribute SHALL specify the **Data Type** with which to match the **resource attribute**.

74 **Issuer** [Optional]

75 This attribute, if supplied, SHALL specify the **Issuer** with which to match the **resource**  
76 **attribute**.

77 **MustBePresent** [Optional]

78 This attribute governs the whether the <ResourceAttributeIsPresent> element returns **false**  
79 or **indeterminate** in the case of the absence of the **named resource attribute**. If the  
80 **named resource attribute** is absent and **MustBePresent** is set to **false**, this element  
81 SHALL result in **false**. If the **named resource attribute** is absent and **MustBePresent** is

82 set to `true`, this element SHALL result in *indeterminate*. If `MustBePresent` is not  
83 supplied, its default value SHALL be `false`.

### 84 5.3. Element <ResourceAttributeDesignator>

85

86 The <ResourceAttributeDesignator> element retrieves a bag of values for a **named**  
87 **resource attribute**. A **resource attribute** is an **attribute** that SHALL only be located within the  
88 <Resource> element of the <xacml-context:Request> element. A **named resource**  
89 **attribute** has specific criteria (described below) with which to match a **resource attribute**. A  
90 **named resource attribute** SHALL be considered *present*, i.e. *not absent*, if there is at least one  
91 **resource attribute** that matches the criteria. A **resource attribute value** is an **attribute value** that  
92 is contained within a **resource attribute**.

93 The <ResourceAttributeDesignator> element SHALL return a bag of all the **resource**  
94 **attribute values** that are matched by the **named resource attribute**. The `MustBePresent`  
95 attribute governs whether this element returns an empty bag or *indeterminate* in the case of the  
96 absence of the **named resource attribute**. If the **named resource attribute** is not present and the  
97 `MustBePresent` attribute is set to `false` (its default value) this element SHALL result in an empty  
98 bag. If the **named resource attribute** is not present and the `MustBePresent` attribute is set to  
99 `true`, this element SHALL result in *indeterminate*. Regardless of the `MustBePresent` attribute, if  
100 it cannot be determined whether the **named resource attribute** is present or not present in the  
101 request context, or the value of the **named resource attribute** is unavailable, then the expression  
102 SHALL result in *indeterminate*.

103 A **named resource attribute** SHALL match a **resource attribute** as per the match semantics  
104 specified in the `AttributeDesignatorType` complex type [Section 5.1].

105 The <ResourceAttributeDesignator> MAY be passed to the <Apply> element as an  
106 argument.

107

```
108 <xs:element name="ResourceAttributeDesignator"  
109           type="xacml:AttributeDesignatorType" />
```

110

111 The <ResourceAttributeDesignator> element is of the `AttributeDesignatorType` complex  
112 type.

113 The <ResourceAttributeDesignator> element has the following attributes:

114 `AttributeId` [Required]

115 This attribute SHALL specify the `AttributeId` with which to match the **resource**  
116 **attribute**.

117 `DataType` [Required]

118 This attribute SHALL specify the `DataType` with which to match the **resource attribute**.

119 `Issuer` [Optional]

120 This attribute, if supplied, SHALL specify the `Issuer` with which to match the **resource**  
121 **attribute**.

122 `MustBePresent` [Optional]

123 This attribute governs the whether the <ResourceAttributeDesignator> element  
124 returns an empty bag or *indeterminate* in the case of the absence of the **named resource**  
125 **attribute**. If the **named resource attribute** is absent and `MustBePresent` is set to  
126 `false`, this element SHALL result in an empty bag. If the **named resource attribute** is  
127 absent and `MustBePresent` is set to `true`, this element SHALL result in *indeterminate*.  
128 If `MustBePresent` is not supplied, its default value SHALL be `false`.

129

130