

# Errors Generated by XACML2mCRL2

## 1 Enforcement of Transformation Requirements

XACML2mCRL2 works based on a set of specific transformation requirements. If the input XACML policy fails to meet these requirements, it cannot be transformed into mCLR2, and instead, an error message will be displayed to the user. To ensure the proper enforcement of the transformation requirements, a series of conditions are implemented as shown below.

```
1
2 <xsl:when test="(not(//xacml:Rule[not(//xacml:AttributeDesignator)]) or (not(
   $SubjectAtt = 'True') and not($ObjectAtt = 'True') and not($ActionAtt = '
   True') and not($EnvironmentAtt = 'True')))">
3   <xsl:text>
4     Error: The provided Policy includes a Rule that does not have any Attributes.
       In the current version of the tool, Rules should at least have an
       attribute.
5   </xsl:text>
6 </xsl:when>
7
8 <xsl:when test="(//xacml:AttributeSelector)">
9   <xsl:text>
10    Error: The provided Policy includes an AttributeSelector element.
11    The values of attributes need to be explicitly specified using the
       AttributeValue element (and not using the AttributeSelector element,
       which can be used to provide an attribute value implicitly).
12   </xsl:text>
13 </xsl:when>
14
15 <xsl:when test="(//xacml:PolicySetIdReference)">
16   <xsl:text>
17    Error: The provided Policy includes a PolicySetIdReference element.
18    The input policies should not contain implicit information, and everything
       should explicitly exist in the policies.
19    Therefore, PolicySets should not be referenced using a PolicySetIdReference
       element.
20   </xsl:text>
21 </xsl:when>
22
23 <xsl:when test="(//xacml:PolicyIdReference)">
24   <xsl:text>
25    Error: The provided Policy includes a PolicyIdReference element.
26    The input policies should not contain implicit information, and everything
       should explicitly exist in the policies.
27    Therefore, Policies should not be referenced using a PolicyIdReference
       element.
```

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28 </xsl:text>
29 </xsl:when>
30
31 <xsl:when test="//xacml:ObligationExpression[not(@ObligationId) or not(
    @FulfillOn)]">
32   <xsl:text>
33     Error: The provided Policy includes an ObligationExpression element that does
        not contain all the REQUIRED attributes according to the XACML standard
        .
34     Please make sure that ObligationExpression elements contain both ObligationId
        and FulfillOn attributes that are REQUIRED attributes.
35   </xsl:text>
36 </xsl:when>
37
38 <xsl:when test="//xacml:AttributeDesignator[not(@AttributeId) or not(@Category)
    or not(@MustBePresent)]">
39   <xsl:text>
40     Error: The provided Policy includes an AttributeDesignator element that does
        not contain all the REQUIRED attributes according to the XACML standard.
41     Please make sure that AttributeDesignator elements contain AttributeId,
        Category, and MustBePresent attributes that are REQUIRED attributes.
42   </xsl:text>
43 </xsl:when>

```

Listing 1: Conditions for enforcing transformation requirements