

Old section 5.34 Element <AttributeSelector> ...

MustBePresent [Optional]

Whether or not the designated **attribute** must be present in the **context**. If the XPath expression selects no node, and the `MustBePresent` attribute is "True", then the result SHALL be "Indeterminate" and the status code SHALL be "urn:oasis:names:tc:xacml:2.0:status:missing-attribute". If the XPath expression selects no node, and the `MustBePresent` attribute is missing or "False", then the result SHALL be an empty **bag**. If the XPath expression selects at least one node and the selected node(s) could be successfully converted to a **bag** of values of the specified data-type, then the result SHALL be the **bag**, regardless of the value of the `MustBePresent` attribute. If the XPath expression selects at least one node, but an error occurs when converting one or more of the nodes to values of the specified data-type, then the result SHALL be "Indeterminate" and the status code SHALL be "urn:oasis:names:tc:xacml:2.0:status:processing-error", regardless of the value of the `MustBePresent` attribute.

Proposed extract from Section 5.34 Element <AttributeSelector> ...

MustBePresent [Optional]

Whether or not the designated **attribute** must be present in the **context**. If the XPath expression selects no node, and the `MustBePresent` attribute is "True", then the result SHALL be "Indeterminate". If the XPath expression selects no node, and the `MustBePresent` attribute is missing or "False", then the result SHALL be an empty **bag**. If the XPath expression selects at least one node and the selected node(s) could be successfully converted to a **bag** of values of the specified data-type, then the result SHALL be the **bag**, regardless of the value of the `MustBePresent` attribute. If the XPath expression selects at least one node, but an error occurs when converting one or more of the nodes to values of the specified data-type, then the result SHALL be "Indeterminate", regardless of the value of the `MustBePresent` attribute. See also Section 7.12.3.

New Section 7.12 ...

## 7.1. Exception handling

XACML specifies behaviour for the **PDP** in the following situations.

### 7.1.1. Unsupported functionality

If the **PDP** attempts to evaluate a **policy set** or **policy** that contains an optional element type or function that the **PDP** does not support, then the **PDP** SHALL return a <Decision> value of "Indeterminate". If a <StatusCode> element is also returned, then its value SHALL be "urn:oasis:names:tc:xacml:2.0:status:syntax-error" in the case of an unsupported element type, and "urn:oasis:names:tc:xacml:2.0:status:processing-error" in the case of an unsupported function.

### 7.1.2. Syntax and type errors

If a **policy** that contains invalid syntax is evaluated by the XACML **PDP** at the time a **decision request** is received, then the result of that **policy** SHALL be "Indeterminate" with a StatusCode value of "urn:oasis:names:tc:xacml:2.0:status:syntax-error".

If a **policy** that contains invalid static data-types is evaluated by the XACML **PDP** at the time a **decision request** is received, then the result of that **policy** SHALL be "Indeterminate" with a StatusCode value of "urn:oasis:names:tc:xacml:2.0:status:processing-error".

### 7.1.3. Missing attributes

If matching **attributes** for any of the **attribute** designators or selectors that are found in the **policy** are missing from the request **context** then the **PDP** SHALL return a <Decision> element contents of "Indeterminate" with a status code of:

"urn:oasis:names:tc:xacml:2.0:missing-attribute",

indicating that more information is needed in order for a definitive decision to be rendered. In this case, the <Status> element MAY list the names and data-types of any **attributes** of the **subjects, resource, action** or **environment** that are needed by the **PDP** to refine its decision. A **PEP** MAY resubmit a refined request **context** in response to a <Decision> element contents of "Indeterminate" with a status code of

"urn:oasis:names:tc:xacml:2.0:missing-attribute",

by adding **attribute** values for the **attribute** names that were listed in the previous response. When the **PDP** returns a <Decision> element contents of "Indeterminate", with a status code of

"urn:oasis:names:tc:xacml:2.0:missing-attribute",

it MUST NOT list the names and data-types of any **attribute** of the **subject, resource, action** or **environment** for which values were supplied in the original request. Note, this requirement forces the **PDP** to eventually return an **authorization decision** of "Permit", "Deny" or "Indeterminate" with some other status code, in response to successively-refined requests.