

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.