### Component SignaturePtr

The SignaturePtr component is used to point to a signature object in some data object.

Below follows a list of the sub-components that constitute this component:

The OPTIONAL NsPrefixMapping element MAY occur zero or more times containing a sub-component. If present, each instance MUST satisfy the requirements specified in this document in section NsPrefixMapping.

The WhichData element MUST contain one instance of a unique identifier reference. This element identifies the input or output data objects (documents or signatures) being pointed at.

The OPTIONAL Reference element MAY be used to provide a cryptographic digest of the potentially transformed data object under consideration. If present, the element MUST satisfy the requirements specified in this document in section Reference.

The OPTIONAL XPath element MAY be used to identify a nested signature object, which is embedded within the data object specified by the WhichData element. The details of the identification depend on the XPathQualifier attribute.

The OPTIONAL XPathQualifier element MAY be used to specify the details of how the XPath element is to be interpreted. If this element is missing, the default [[XPATH-v2](http://www.w3.org/TR/2010/REC-xpath20-20101214/)] is assumed. The present document explicitly specifies the following URIs and signature identification strategies:

* <http://www.w3.org/TR/1999/REC-xpath-19991116/> - is applicable for XML-based data objects and specifies that the XPath element is to be interpreted according to [[XPATH-v1](http://www.w3.org/TR/1999/REC-xpath-19991116/)].
* <http://www.w3.org/TR/2010/REC-xpath20-20101214/> - is applicable for XML-based data objects and specifies that the XPath element is to be interpreted according to [[XPATH-v2](http://www.w3.org/TR/2010/REC-xpath20-20101214/)].
* <http://www.w3.org/TR/2014/REC-xpath-30-20140408/> - is applicable for XML-based data objects and specifies that the XPath element is to be interpreted according to [[XPATH-v3](http://www.w3.org/TR/2014/REC-xpath-30-20140408/)].
* <https://www.w3.org/TR/2017/REC-xpath-31-20170321/> - is applicable for XML-based data objects and specifies that the XPath element is to be interpreted according to [[XPATH-v3.1](https://www.w3.org/TR/2017/REC-xpath-31-20170321/)].
* urn:iso:std:iso:32000:-1 - is applicable for PDF-based documents and specifies that the XPath element is to be interpreted as field name of the signature directory (see [ISO 32000-1], Table 252), which identifies a given PDF-signature.
* urn:iso:std:iso:14533:-4:clause:D - is applicable for other types of data objects and specifies that the XPath element is to be interpreted as specified in Annex D of [ISO14533-4]. Note, that this element allows to identify signature objects (signatures, time-stamp tokens, evidence records etc.) embedded within ZIP-based containers and individual SignerInfo-structures within a CMS-based SignedData container according to [[RFC5652](https://tools.ietf.org/html/rfc5652)].

Further signature identification strategies MAY be defined by profiles of the present document.

#### SignaturePtr – JSON Syntax

The SignaturePtrType JSON object SHALL implement in JSON syntax the requirements defined in the SignaturePtr component.

Properties of the JSON object SHALL implement the sub-components of SignaturePtr using JSON-specific names mapped as shown in the table below.

|  |  |
| --- | --- |
| Element | Implementing JSON member name |
| NsPrefixMapping | nsDecl |
| Reference | ref |
| WhichData | whichData |
| XPath | xPath |
| XPathQualifier | xPathQual |

The SignaturePtrType JSON object is defined in the JSON schema [[DSBJSON](#refDSBJSON)] and is provided below as a service to the reader.

"dss2-SignaturePtrType": {

 "type": "object",

 "properties": {

 "xpath": {

 "type": "string"

 },

 "nsDecl": {

 "type": "array",

 "items": {

 "$ref": "#/definitions/dsb-NsPrefixMappingType"

 }

 },

 "whichDoc": {

 "$ref": "#/definitions/dss2-DocumentBaseType"

 },

 "xPath": {

 "type": "string"

 }

 },

 "required": ["whichDoc"]

}

#### SignaturePtr – XML Syntax

The XML type SignaturePtrType SHALL implement the requirements defined in the SignaturePtr component.

The SignaturePtrType XML element is defined in XML Schema [DSS2Base], and is copied below for information.

<xs:complexType name="SignaturePtrType">

 <xs:sequence>

 <xs:element name="NsPrefixMapping" type="dsb:NsPrefixMappingType" maxOccurs="unbounded" minOccurs="0"/>

 <xs:element ref="ds-rw:Reference" maxOccurs="1" minOccurs="0"/>

 </xs:sequence>

 <xs:attribute name="WhichData" type="xs:IDREF" use="required"/>

 <xs:attribute name="XPath" type="xs:string" use="optional"/>

 <xs:attribute name="XPathQualifier" type="xs:anyURI" use="optional"/>

</xs:complexType>

Each child element of SignaturePtrType XML element SHALL implement in XML syntax the sub-component that has a name equal to its local name.