



Electronic Signatures and Infrastructures (ESI); Electronic Registered Delivery Services Part 3: Formats

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Reference

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Keywords

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2

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80 Foreword

81 This draft European Standard (EN) has been produced by ETSI Technical Committee| ESI and is now submitted for
 82 public review before approval by TC ESI and submission for the combined Public Enquiry and Vote phase of the ETSI
 83 standards EN Approval Procedure.

84 The present document is part 3 of a multi-part deliverable. Full details of the entire series can be found in [1].

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
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85

86 Modal verbs terminology

87 In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and
 88 "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of
 89 provisions).

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91

92 1 Scope

93 The present document provides the format for the semantic content that flows across the different interfaces of ERD
94 systems as defined in [

95 2].

96 2 References

97 2.1 Normative references

98 References are either specific (identified by date of publication and/or edition number or version number) or
99 non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the
100 referenced document (including any amendments) applies.

101 Referenced documents which are not found to be publicly available in the expected location might be found at
102 <https://docbox.etsi.org/Reference/>.

103 NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee
104 their long term validity.

105 The following referenced documents are necessary for the application of the present document.

- 106 [1] ETSI EN 319 522-1: " Electronic Signatures and Infrastructures (ESI); Electronic Registered
107 Delivery Services; Part 1: Framework and Architecture".
- 108 [2] ETSI EN 319 522-2: " Electronic Signatures and Infrastructures (ESI); Electronic Registered
109 Delivery Services; Part 2: Semantic Contents".
- 110 [3] ETSI EN 319 132-1: " Electronic Signatures and Infrastructures (ESI); XAdES signatures; Part 1:
111 Building blocks and baseline profiles".
- 112 [4] W3C Recommendation (11 April 2013): "XML Signature Syntax and Processing. Version 1.1".
- 113 [5] IETF RFC 3061: "A URN Namespace of Object Identifiers".
- 114 [6] CEF eIDAS Technical Sub-group: "eIDAS SAML Attribute profile". Version 1.1.2. October 2016.
- 115 [7] OASIS: "Assertions and Protocols for the OASIS Security Assertion Markup Language (SAML)
116 V2.0". March 2005.
- 117 [8] IETF RFC 5646: "Tags for Identifying Languages".
- 118 [9] IETF RFC 5035: "Enhanced Security Services (ESS) Update: Adding CertID Algorithm Agility".
- 119 [10] IETF RFC 7522: "Security Assertion Markup Language (SAML) 2.0 Profile for OAuth 2.0 Client
120 Authentication and Authorization Grants".
- 121 [11] OASIS: "Service Metadata Publishing (SMP) Version 1.0", OASIS standard, August 2017.
- 122 [12] IETF RFC 5332: Internet Message Format
- 123 [13] ETSI EN 319 532-3: " Electronic Signatures and Infrastructures (ESI); Registered Electronic Mail
124 (REM) Services; Part 3: Formats".

125

126

127 2.2 Informative references

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129 non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the
130 referenced document (including any amendments) applies.

131 NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee
132 their long term validity.

133 The following referenced documents are not necessary for the application of the present document but they assist the
134 user with regard to a particular subject area.

135

136 [i.1] COMMISSION IMPLEMENTING REGULATION (EU) 2015/1502 "on setting out minimum
137 technical specifications and procedures for assurance levels for electronic identification means
138 pursuant to Article 8(3) of Regulation (EU) No 910/2014 of the European Parliament and of the
139 Council on electronic identification and trust services for electronic transactions in the internal
140 market".

141 [i.2] NIST Special Publication 800-63: "Digital Identity Guidelines".

142 [i.3] NIST Special Publication 800-63-A: "Digital Identity Guidelines. Enrolment and Identity Proofing
143 Requirements".

144 [i.4] NIST Special Publication 800-63-B: "Digital Identity Guidelines. Authentication and Lifecycle
145 Management".

146 [i.5] NIST Special Publication 800-63-C: "Digital Identity Guidelines. Federation and Assertions".

147 [i.6] Regulation (EU) No 910/2014

148

149 3 Definitions and abbreviations

150 For the purposes of the present document, the definitions and abbreviations given in [1] apply.

151

152 [

153

154

155

156

157 4 Metadata formats

158 4.1 Introduction

159 The following clause aims at providing specific formats for metadata components identified in [2], clause 6. Clause 4.2
160 maps metadata components in RFC 5322 format; clause 4.3 maps metadata components in AS4 format.

161 Other mappings can be provided by future versions of this document or by other parties.

162

163 4.2 RFC 5322 format

164 Specification for the **mapping of ERDS metadata** in an RFC 5322 [12] format is provided in [13].

165

166 4.3 AS4 format

167 All Message Property names should be prefixed with : <http://uri.etsi.org/19522/as4binding/v1#/>

168

Table 1:

Semantic content (from EN 319 522-2)	Mapping to AS4 header elements
Submit date and time	SubmissionTimestamp
Relay date and time	//eb:Messaging/eb:UserMessage/eb3:MessageInfo/eb3:Timestamp
Expiration date	ExpirationTimestamp
Recipient authentication level	RequiredRecipientAuthenticationLevel
Applicable policy	Policy
Sender's address	SenderAddress
Sender's replyto address	ReplyTo
Recipient's address	ReceiverAddress
Message identifier	//eb:Messaging/eb:UserMessage/eb3:MessageInfo/eb3:MessageId
Message original identifier	OriginalMessageId
In reply to	//eb:Messaging/eb:UserMessage/eb3:MessageInfo/eb3:RefToMessageId
Message type	//eb:Messaging/eb:UserMessage/eb3:CollaborationInfo/eb:Action
Message digest	Included in WS-Security header
Content type	
Attachment information	For each attachment of the business document there shall be a eb:PartInfo element in the header with the following PartProperties set:
Attachment name	AttachmentName
Attachment format	AttachmentType
SubjectExtensions	
Signature?	

169

170

171 5 Evidence and identification formats

172

173 5.1 Introduction

174 The present clause defines an XML format formats for ERDS evidence components identified in ETSI EN 319 522-2 2
175 [2] clause 8.

176 ERDS can generate PDF-formatted ERDS evidences. This format, although valid, it is thought more for final human
177 usage rather than in situations where interoperability has to be addressed or automatic processes have to take some
178 decision based on ERDS evidence content.

179 XML format is better suited for these last cases, where the automatic processing of the evidence content prevails over
180 its immediate human interpretation. For the aforementioned reasons, the detailed specification of PDF evidence format
181 is out of scope of the present specification and it is left to specific implementations of ERDS.

182 5.2 XML format

183 5.2.1 Namespaces used

184 Table 2 below shows the URIs corresponding to the namespaces and the prefixes associated to them in the present
185 document.

186 **Table 2: Namespaces URIs and prefixes**

Namespace's URI	Namespace's prefix
http://uri.etsi.org/19522/v1#	erds
http://www.w3.org/2001/XMLSchema	xs
http://www.w3.org/2000/09/xmldsig#	ds
urn:oasis:names:tc:SAML:2.0:assertion	saml

187

188 Below follows a copy of the `xs:schema` element of the XML Schema file "ERDS19522v111-201902.xsd" whose
189 location is detailed in clause [XMLSCHEMALOCATIONFILE], and that defines the namespace whose URI is
190 http://uri.etsi.org/19522/v1#.

```

191 <xs:schema targetNamespace="http://uri.etsi.org/19522/v1#"
192 xmlns:ds="http://www.w3.org/2000/09/xmldsig#" xmlns:xs="http://www.w3.org/2001/XMLSchema"
193 xmlns="http://uri.etsi.org/19522/v1#" xmlns:saml="urn:oasis:names:tc:SAML:2.0:assertion">
194
195   <xs:import namespace="http://www.w3.org/XML/1998/namespace"
196   schemaLocation="http://www.w3.org/2001/xml.xsd"/>
197
198   <xs:import namespace="http://www.w3.org/2000/09/xmldsig#"
199   schemaLocation="http://www.w3.org/TR/2002/REC-xmldsig-core-20020212/xmldsig-core-schema.xsd"/>
200
201   <xs:import namespace="urn:oasis:names:tc:SAML:2.0:assertion" schemaLocation="http://docs.oasis-
202   open.org/security/saml/v2.0/saml-schema-assertion-2.0.xsd"/>
203

```

204 5.2.2 Evidence format

205 5.2.2.1 Introduction

206 The present clause specifies a XML format for the Evidences generated by an ERDS.

207 5.2.2.2 Auxiliary elements

208 5.2.2.2.1 Introduction

209 The present clause provides details of a number of auxiliary types and elements used in throughout the XML Schema
210 file .

211 5.2.2.2.2 URI related types

212 The present clause defines a number of types whose instances' values are URIs.

213 These types element shall be defined as in XML Schema file whose location is detailed in clause
214 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
215 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
216
217 <xs:simpleType name="NonEmptyURIType">
218   <xs:restriction base="xs:anyURI">
219     <xs:minLength value="1"/>
220   </xs:restriction>
221 </xs:simpleType>
222
223 <xs:complexType name="NonEmptyAttributedURIType">
224   <xs:simpleContent>
225     <xs:extension base="NonEmptyURIType">
226       <xs:attribute ref="xml:lang" use="optional"/>
227       <xs:attribute name="scheme" type="xs:string" use="optional"/>
228     </xs:extension>
229   </xs:simpleContent>
230 </xs:complexType>
231
232 <xs:complexType name="NonEmptyMultiLangURIType">
233   <xs:simpleContent>
234     <xs:extension base="NonEmptyURIType">
235       <xs:attribute ref="xml:lang" use="required"/>
236     </xs:extension>
237   </xs:simpleContent>
238 </xs:complexType>
239
240 <xs:complexType name="NonEmptyMultiLangURIListType">
241   <xs:sequence>
242     <xs:element name="URI" type="NonEmptyMultiLangURIType"/>
243   </xs:sequence>
244 </xs:complexType>
245
```

246 Instances of NonEmptyURIType type shall have a non-empty URI as value.

247 Instances of NonEmptyAttributedURIType shall have a non-empty URI as value. The xml:lang attribute shall
248 identify a language using the language code as specified in IETF RFC 5646 [5]. The scheme attribute shall indicate
249 the scheme for the URI value of the element.

250 Instances of NonEmptyMultiLangURIType shall have a non-empty URI as value. The xml:lang attribute shall
251 identify a language using the language code as specified in IETF RFC 5646 [8].

252 5.2.2.2.3 String related types

253 The present clause defines a number of types whose instances' values are strings.

254 These types element shall be defined as in XML Schema file whose location is detailed in clause
255 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
256 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
257
258 <xs:simpleType name="NonEmptyStringType">
259   <xs:restriction base="xs:string">
260     <xs:minLength value="1"/>
261   </xs:restriction>
262 </xs:simpleType>
263
264 <xs:complexType name="AttributedNonEmptyStringType">
265   <xs:simpleContent>
266     <xs:extension base="NonEmptyStringType">
267       <xs:attribute name="type" type="NonEmptyStringType" use="required"/>
268     </xs:extension>
269   </xs:simpleContent>
270 </xs:complexType>
271
```

272 Instances of NonEmptyStringType type shall have a non-empty string as value.

273 Instances of `NonEmptyAttributedStringType` type shall have a non-empty string as value. The `type` attribute
274 shall indicate the type of the corresponding string value.

275 5.2.2.2.4 Container for extensibility

276 The present clause defines the `Any` element that may have any content.

277 The present clause also defines the `AnyType` type whose instances may have any content.

278 They are specified for serving as placeholders for contents that are not specified in the present document.

279 This `Any` element shall be defined as in XML Schema file whose location is detailed in clause
280 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
281 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for
282 information. "ERDS19522v111-201902.xsd" whose location is detailed in clause [XMLSCHEMALOCATIONFILE]
283 and is copied below for information. "ERDS19522v111-201902.xsd" whose location is detailed in clause
284 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
285 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
286 <xs:element name="Any" type="AnyType"/>
287
288 <xs:complexType name="AnyType" mixed="true">
289 <xs:sequence minOccurs="0" maxOccurs="unbounded">
290 <xs:any namespace="##any" processContents="lax"/>
291 </xs:sequence>
292 <xs:anyAttribute namespace="##any"/>
293 </xs:complexType>
294
```

295 5.2.2.3 Evidence root element

296 The root element of evidence shall be the `Evidence` element.

297 This element shall be defined as in XML Schema file whose location is detailed in clause
298 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
299 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
300 <xs:element name="Evidence" type="EvidenceType"/>
301
302 <xs:complexType name="EvidenceType">
303 <xs:sequence>
304 <xs:element ref="EvidenceIdentifier"/>
305 <xs:element ref="ERDSEventId"/>
306 <xs:group ref="Components"/>
307 </xs:sequence>
308 <xs:attribute name="version" type="xs:string" use="required"/>
309 <xs:attribute name="Id" type="xs:ID" use="optional"/>
310 </xs:complexType>
311
312
```

313 Evidences conformant to the present specification shall have "EN319522v1.1.1" as value for `version` attribute.

314 Attribute `version` shall implement the semantics specified in clause 8.2.2 of [2].

315 Attribute `Id` shall be used to reference the `Evidence` element.

316 Clauses below provide XML Schema definitions and requirements on its components.

317 5.2.2.4 EvidenceIdentifier element

318 The content of this element shall have the semantics specified in clause 8.2.2 of

```
319 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
320 <xs:element name="EvidenceIdentifier" type="xs:string" />
321
```

322 5.2.2.5 ERDSEventId element

323 The content of this element shall have the semantics specified in clause 8.2.2 of [2] 2.

324 The content of this element shall be one of the URI values listed in Table 3.

325 This element shall be defined as in XML Schema file whose location is detailed in clause
326 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
327 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
328 <xs:element name="ERDSEventId" type="NonEmptyURIType">
329 </xs:element>
```

331 Table 3 below shows the URI values corresponding to each of the events specified in clause 6.2 of [2]. Table 3 below
332 shows the URI values corresponding to each of the events specified in clause 6.2 of .

333 **Table 3: URI values identifying the ERDS events triggering the generation of ERDS evidences**

URI value	Event identified
http://www.etsi.org/19522/Event/SubmissionAcceptance	SubmissionAcceptance
http://www.etsi.org/19522/Event/SubmissionRejection	SubmissionRejection
http://www.etsi.org/19522/Event/RelayAcceptance	RelayAcceptance
http://www.etsi.org/19522/Event/RelayRejection	RelayRejection
http://www.etsi.org/19522/Event/RelayFailure	RelayFailure
http://www.etsi.org/19522/Event/NotificationForAcceptance	NotificationForAcceptance
http://www.etsi.org/19522/Event/NotificationForAcceptanceFailure	NotificationForAcceptanceFailure
http://www.etsi.org/19522/Event/ConsignmentAcceptance	ConsignmentAcceptance
http://www.etsi.org/19522/Event/ConsignmentRejection	ConsignmentRejection
http://www.etsi.org/19522/Event/AcceptanceRejectionExpiry	AcceptanceRejectionExpiry
http://www.etsi.org/19522/Event/ContentConsignment	ContentConsignment
http://www.etsi.org/19522/Event/ContentConsignmentFailure	ContentConsignmentFailure
http://www.etsi.org/19522/Event/ConsignmentNotification	ConsignmentNotification
http://www.etsi.org/19522/Event/NotificationDelivery	NotificationDelivery
http://www.etsi.org/19522/Event/ConsignmentNotificationFailure	ConsignmentNotificationFailure
http://www.etsi.org/19522/Event/ContentHandover	ContentHandover
http://www.etsi.org/19522/Event/ContentHandoverFailure	ContentHandoverFailure
http://www.etsi.org/19522/Event/RelayToNonERDS	RelayToNonERDS
http://www.etsi.org/19522/Event/RelayToNonERDSFailure	RelayToNonERDSFailure
http://www.etsi.org/19522/Event/ReceivedFromNonERDS	ReceivedFromNonERDS

334

335 5.2.2.6 Components elements group

336 Below follows a copy of a part of the XML Schema file whose location is detailed in clause
337 [XMLSCHEMALOCATIONFILE] that defines a group of elements, whose components are specified in clauses below.

```
338 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
339
340 <xs:group name="Components">
341 <xs:sequence>
342 <xs:element ref="EventReasons" minOccurs="0"/>
343 <xs:element name="EventTime" type="xs:dateTime"/>
344 <xs:element ref="EvidenceIssuerPolicyID" minOccurs="0"/>
345 <xs:element ref="EvidenceIssuerDetails"/>
346 <xs:element ref="SenderDetails"/>
347 <xs:element ref="RecipientDetails" maxOccurs="unbounded"/>
348 <xs:element ref="RecipientsDelegateDetails" minOccurs="0" maxOccurs="unbounded"/>
349 <xs:element name="SubmissionTime" type="xs:dateTime" minOccurs="0"/>
350 <xs:element name="EvidenceRefersToRecipient" type="xs:integer" minOccurs="0"/>
351 <xs:element name="MessageIdentifier" type="xs:string" minOccurs="0"/>
352 <xs:element ref="UserContentInfo" minOccurs="0"/>
353 <xs:element name="ForwardedToExternalSystem" type="xs:string" minOccurs="0"/>
354 <xs:element ref="TransactionLogInformation" minOccurs="0"/>
355 <xs:element ref="Extensions" minOccurs="0"/>
356 <xs:element ref="ds:Signature" minOccurs="0"/>
357 </xs:sequence>
358 </xs:group>
359
```

360 5.2.2.7 EventReasons element

361 The EventReasons element shall have the semantics specified in clause 8.2.3 of [2].

362 The EventReasons element shall identify, by means of a URI value, the reason or reasons that have caused the
363 event that has triggered the generation of the evidence.

364 This element shall be defined as in XML Schema file whose location is detailed in clause
365 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
366 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
367 <xs:element name="EventReasons" type="EventReasonsType"/>
368 <xs:complexType name="EventReasonsType">
369   <xs:sequence>
370     <xs:element ref="EventReason" maxOccurs="unbounded"/>
371   </xs:sequence>
372 </xs:complexType>
373
374 <xs:element name="EventReason" type="EventReasonType"/>
375 <xs:complexType name="EventReasonType">
376   <xs:sequence>
377     <xs:element name="Code" type="xs:anyURI"/>
378     <xs:element name="Details" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
379   </xs:sequence>
380 </xs:complexType>
381
```

382 Each EventReason child shall identify one of the reasons that caused the evidence's triggering event.

383 EventReason's Code child shall have a URI value. Table 4 shows some possible values for this element. Code
384 child element may have values different than those that are listed in Table 4.

385 EventReason's Details child shall contain textual information providing further information on the reason.

386

Table 4: URI values identifying reasons causing events occurrences

URI values
http://uri.etsi.org/19522/EventReason/MessageAccepted
http://uri.etsi.org/19522/EventReason/InvalidMessageFormat
http://uri.etsi.org/19522/EventReason/MalwareFound
http://uri.etsi.org/19522/EventReason/InvalidSenderSignature
http://uri.etsi.org/19522/EventReason/SenderSigningCertExpiredOrRevoked
http://uri.etsi.org/19522/EventReason/S ERDS PolicyViolation
http://uri.etsi.org/19522/EventReason/S ERDSP Malfunction
http://uri.etsi.org/19522/EventReason/S ERDSP NotIdentified
http://uri.etsi.org/19522/EventReason/S ERDSP Unreachable
http://uri.etsi.org/19522/EventReason/S ERDSP ReceivedNoDeliveryInfoFromR ERDSP
http://uri.etsi.org/19522/EventReason/UnknownRecipient
http://uri.etsi.org/19522/EventReason/RecipientUAFull
http://uri.etsi.org/19522/EventReason/TechnicalMalfunction
http://uri.etsi.org/19522/EventReason/AttachmentFormatNotAccepted
http://uri.etsi.org/19522/EventReason/RecipientRejection
http://uri.etsi.org/19522/EventReason/RetentionPeriodExpired
http://uri.etsi.org/19522/EventReason/NonERDSUnreachable
http://uri.etsi.org/19522/EventReason/NonERDSNonOperational
http://uri.etsi.org/19522/EventReason/NonERDSRejection
http://uri.etsi.org/19522/EventReason/PrintingSystemUnreachable
http://uri.etsi.org/19522/EventReason/PrintingSystemNonOperational
http://uri.etsi.org/19522/EventReason/PrintingBufferFull
http://uri.etsi.org/19522/EventReason/Other

387

388 5.2.2.8 EventTime element

389 The EventTime element of the Components group shall have the semantics specified in clause 8.2.4 of 2.

390 5.1.2.9 EvidenceIssuerPolicyID element

391 Each PolicyID child of EvidenceIssuerPolicyID element shall have the semantics specified in clause 8.2.6 of
392 2.

393 This element shall be defined as in XML Schema file whose location is detailed in clause
394 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

395 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
396 <xs:element name="EvidenceIssuerPolicyID" type="EvidenceIssuerPolicyIDType"/>
397 <xs:complexType name="EvidenceIssuerPolicyIDType">
398   </xs:annotation>
399   <xs:sequence>
400     <xs:element name="PolicyID" type="xs:anyURI" maxOccurs="unbounded"/>
401   </xs:sequence>
402 </xs:complexType>
403

```

404 PolicyID child shall have a URI reference as value, which shall identify one policy. If the policy is identified by an
 405 OID, the URI reference shall have a URN as value. The value of this URN shall be compliant with RFC 3061 [5]**Error!**
 406 **Reference source not found..**

407 5.2.2.10 EntityDetailsType type

408 Instances of EntityDetailsType type shall have the semantics specified in clause 8.2.7 of 2.

409 This type shall be defined as in XML Schema file whose location is detailed in clause
 410 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

411 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
412
413 <xs:complexType name="EntityDetailsType">
414   <xs:sequence>
415     <xs:element ref="Identity"/>
416     <xs:element ref="CertificateDetails" minOccurs="0"/>
417     <xs:element ref="Any" minOccurs="0"/>
418   </xs:sequence>
419 </xs:complexType>
420

```

421 The Any element is a placeholder for extending the definition of this type.

422 Clauses below provide details of the different components.

423 5.2.2.11 Identity element

424 The Identity element shall be defined as in XML Schema file whose location is detailed in clause
 425 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

426 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
427
428 <xs:element name="Identity" type="IdentityAttributesType" />
429
430 <xs:complexType name="IdentityAttributesType">
431   <xs:sequence>
432     <xs:element ref="saml:Attribute" maxOccurs="unbounded" />
433   </xs:sequence>
434 </xs:complexType>
435

```

436 The Identity child element shall contain a sequence of saml:Attribute elements. Each saml:Attribute element shall
 437 contain the value of one identity attribute.

438 The Identity child element may contain one or more saml:Attribute elements each one with a value representing one
 439 postal address.

440 EXAMPLE 1: For natural persons the saml:Attribute element specified in [6] whose Name attribute value is
 441 "**Error! Reference source not found.Error! Reference source not found.**".

442 EXAMPLE 2: For legal persons the saml:Attribute element specified in [6] whose Name attribute value is
 443 "http://eidas.europa.eu/attributes/legalperson/LegalPersonAddress".

444 EXAMPLE 3: The ISA Core Vocabulary cva:Cvaddress element.

445 The sequence of saml:Attribute elements within XML evidences issued by ERDS provided within the European
 446 Union shall be conformant with the identity attributes specified in **Error! Reference source not found..**

447 The mandatory and optional saml:Attribute elements within XML evidences issued by ERDS provided within the
 448 European Union used for identifying natural and legal persons, as well as their corresponding postal addresses shall be
 449 the ones specified in [6] **Error! Reference source not found..**

450 5.2.2.12 CertificateDetailsType type

451 Instances of CertificateDetailsType type shall contain the details of the certificate of a certain entity.

452 This type shall be defined as in XML Schema file whose location is detailed in clause
453 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

454 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
455
456 <xs:complexType name="CertificateDetailsType">
457   <xs:choice maxOccurs="3">
458     <xs:element name="X509Certificate" type="xs:base64Binary"/>
459     <xs:element name="CertID" type="CertIDTypeV2"/>
460     <xs:element ref="CertIDAndSignature"/>
461   </xs:choice>
462 </xs:complexType>
463
464 <xs:element name="CertIDAndSignature" type="CertIDAndSignatureType"/>
465 <xs:complexType name="CertIDAndSignatureType">
466   <xs:sequence>
467     <xs:element name="CertID" type="CertIDTypeV2"/>
468     <xs:element ref="CertSignatureDetails" />
469   </xs:sequence>
470 </xs:complexType>
471
472 <xs:complexType name="CertIDTypeV2">
473   <xs:sequence>
474     <xs:element name="CertDigest" type="DigestAlgAndValueType"/>
475     <xs:element name="IssuerSerialV2" type="xs:base64Binary" minOccurs="0"/>
476   </xs:sequence>
477   <xs:attribute name="URI" type="xs:anyURI" use="optional"/>
478 </xs:complexType>
479
480 <xs:complexType name="DigestAlgAndValueType">
481   <xs:sequence>
482     <xs:element ref="ds:DigestMethod"/>
483     <xs:element ref="ds:DigestValue"/>
484   </xs:sequence>
485 </xs:complexType>
486
487 <xs:element name="CertSignatureDetails" type="CertSignatureDetailsType"/>
488 <xs:complexType name="CertSignatureDetailsType">
489   <xs:sequence>
490     <xs:element ref="ds:SignatureMethod"/>
491     <xs:element ref="ds:SignatureValue"/>
492   </xs:sequence>
493 </xs:complexType>
494

```

495 The X509Certificate child shall contain the base-64 encoding of a DER-encoded X.509 certificate of the entity
496 whose details are provided by the instance of CertificateDetailType.

497 The CertID child shall be an instance of CertIDTypeV2 type and shall contain a reference to the X.509 certificate
498 of the entity whose details are provided by the instance of CertificateDetailsType .

499 The child element CertDigest of an instance of CertIDTypeV2 shall contain the digest of the referenced
500 certificate.

501 CertDigest's children elements satisfy the following requirements:

- 502 1) ds:DigestMethod element shall identify the digest algorithm. And
- 503 2) ds:DigestValue element shall contain the base-64 encoded value of the digest computed on the DER-
504 encoded certificate.

505 The content of IssuerSerialV2 element shall be the the base-64 encoding of one DER-encoded instance of type
506 IssuerSerial type defined in IETF RFC 5035 [9].

507 **NOTE 1:** The information in the IssuerSerialV2 element is only a hint, that can help to identify the certificate
508 whose digest matches the value present in the reference. But the binding information is the digest of the
509 certificate.

510 The URI attribute shall provide an indication of where the referenced certificate can be found.

511 NOTE 2: It is intended that this attribute be used as a hint, as implementations can have alternative ways for
512 retrieving the referenced certificate if it is not found at the referenced place.

513

514 The CertIDAndSignature child of CertificateDetails element shall contain an instance of
515 CertIDTypeV2 whose contents shall be as explained in the paragraph above, and the CertISignatureDetails
516 child element, whose details are given below.

517 The CertSignatureDetails child of CertIDAndSignature element shall contain the details of the signature
518 value of the certificate of the entity whose details are provided by the instance of CertificateDetailType.

519 The ds:SignatureMethod child of CertSignatureDetails element shall be an element as specified in
520 clause 4.4.2 of [4]**Error! Reference source not found..** It shall contain the identifier of the algorithm used for
521 computing the signature of the certificate of the entity whose details are provided by the instance of
522 CertificateDetailType.

523 The ds:SignatureValue child of CertSignatureDetails element shall be an element as specified in clause
524 4.4.3 of **Error! Reference source not found..** It shall contain the base-64 encoded signature value of the certificate of
525 the entity whose details are provided by the instance of CertificateDetailType. [4]. It shall contain the base-64
526 encoded signature value of the certificate of the entity whose details are provided by the instance of
527 CertificateDetailType. [4]. It shall contain the base-64 encoded signature value of the certificate of the entity
528 whose details are provided by the instance of CertificateDetailType. [4]. It shall contain the base-64 encoded
529 signature value of the certificate of the entity whose details are provided by the instance of
530 CertificateDetailType.

531 5.2.2.13 EvidenceIssuerDetails element

532 The EvidenceIssuerDetails element shall have the semantics specified in clause 8.2.7 of 2.

533 The EvidenceIssuerDetails element shall be an instance of EntityDetailsType type where the values
534 within all its components shall be values corresponding to the entity that has issued the evidence.

535 This element shall be defined as in XML Schema file whose location is detailed in clause
536 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
537 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
538 <xs:element name="EvidenceIssuerDetails" type="EntityDetailsType"/>
539
```

540 5.2.2.14 AssuranceLevelsDetailsType type

541 Instances of the AssuranceLevelsDetailsType type shall allow implementing the semantics corresponding to
542 the details of the assurance levels of the identification validation and authentication processes carried out with users as
543 specified in clauses 7.2.16 (for the sender), 7.2.17 (for one recipient), and 8.2.18 (for one delegate of one or more
544 recipients) of [2].

545 This type shall be defined as in XML Schema file whose location is detailed in clause
546 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
547 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
548
549 <xs:complexType name="AssuranceLevelsDetailsType">
550   <xs:choice>
551     <xs:sequence>
552       <xs:element name="GlobalAssuranceLevel" type="AssuranceLevelDetailsType"/>
553       <xs:element ref="AuthenticationDetails" />
554     </xs:sequence>
555     <xs:sequence>
556       <xs:element ref="AuthenticationDetsAndAssuranceLevel" />
557       <xs:element name="IdentityProofAssuranceLevel" type="AssuranceLevelDetailsType"/>
558       <xs:element name="FederationAssuranceLevel" type="AssuranceLevelDetailsType" minOccurs="0"/>
559     </xs:sequence>
560   </xs:choice>
561 </xs:complexType>
```

```

562
563 <xs:complexType name="AssuranceLevelDetailsType">
564   <xs:sequence>
565     <xs:element name="AssuranceLevel" type="xs:anyURI"/>
566     <xs:element name="PolicyID" type="xs:anyURI" minOccurs="0"/>
567     <xs:element name="PolicyIDDetails" type="xs:string" minOccurs="0"/>
568     <xs:element name="PolicyIDDetailsResources" type="NonEmptyMultiLangURLListType"
569   minOccurs="0"/>
570   </xs:sequence>
571 </xs:complexType>
572
573 <xs:element name="AuthenticationDetails" type="AuthenticationDetailsType"/>
574 <xs:complexType name="AuthenticationDetailsType">
575   <xs:choice>
576     <xs:element ref="saml:Assertion"/>
577     <xs:element name="OAuth2" type="AnyType" />
578     <xs:sequence>
579       <xs:element name="AuthenticationTime" type="xs:dateTime"/>
580       <xs:element name="AuthenticationMethod" type="xs:anyURI"/>
581     </xs:sequence>
582     <xs:element name="other" type="AnyType"/>
583   </xs:choice>
584 </xs:complexType>
585
586 <xs:element name="AuthenticationDetsAndAssuranceLevel"
587 type="AuthenticationDetsAndAssuranceLevelType"/>
588
589 <xs:complexType name="AuthenticationDetsAndAssuranceLevelType">
590   <xs:sequence>
591     <xs:element name="AssuranceLevel" type="AssuranceLevelDetailsType"/>
592     <xs:element ref="AuthenticationDetails"/>
593   </xs:sequence>
594 </xs:complexType>
595

```

596 Each instance of AssuranceLevelDetailsType type shall contain detailed information of a certain assurance
597 level.

598 These instances may support schemes that define separated assurance levels for authentication process, identity proof
599 processes, and an assertion protocol in cases there is a federation for communicating authentication and identity
600 information.

601 EXAMPLE 1: The Commission Implementing Regulation (EU) 2015/1502 **Error! Reference source not found.**
602 specifies three assurance levels for identity proof and authentication processes. Each one would
603 require one instance of AssuranceLevelDetailsType type.

604 EXAMPLE 2: NIST Special Publications 800-63[i.2], 800-63-A [i.3] i.3, 800-63-B i.4, and 800-63-C i.5
605 providing guidelines to federal agencies for implementing digital identification and authentication
606 also provide means for managing these three different assurance levels if required. Each one would
607 require one instance of AssuranceLevelDetailsType type.

608 One instance may also support schemes that define a unique global assurance level jointly assigned to the identification
609 proof and authentication processes.

610 The AssuranceLevel child element of instances of AssuranceLevelDetailsType shall indicate the value of
611 an assurance level.

612 The PolicyID child element of instances of AssuranceLevelDetailsType shall identify the policy that
613 defined the different assurance levels.

614 The PolicyIDDetails child element of instances of AssuranceLevelDetailsType shall contain relevant
615 textual details of the policy that defined the different assurance levels.

616 The PolicyIDDetailsResources child element of instances of AssuranceLevelDetailsType shall
617 contain a list of URIs pointing to resources providing details of the policy that defined the different assurance levels,
618 each one in a certain language. The xml:lang attribute of each URI child element shall indicate the language used in
619 the resource pointed by this element.

620 Each instance of AssuranceLevelsDetailsType shall convey either:

- 621 • a global assurance level jointly assigned to the identification proof and authentication processes, supported by
622 the `GlobalAssuranceLevel` and `AuthenticationDetails` children elements, or
- 623 • separated information related to the assurance levels of identification proof process, authentication process and
624 the assertion protocols in federated environments, supported by the sequence of
625 `AuthenticationAssuranceLevel`, `IdentityProofAssuranceLevel`, and
626 `FederationAssuranceLevel` children elements.

627 `GlobalAssuranceLevel` child element of an instance of `AssuranceLevelsDetailsType` shall contain the
628 information of a unique global assurance level jointly assigned to the identification proof and authentication processes.

629 One instance of `AuthenticationDetailsType` type (as the `AuthenticationDetails` child element of an
630 instance of `AssuranceLevelsDetailsType`) shall contain details of one authentication process within either a
631 `saml:Assertion` element or the sequence formed by `AuthenticationTime` and `AuthenticationMethod`
632 children elements.

633 The `saml:Assertion` element shall contain a SAML assertion as specified in [7]

634 The `OAuth2` element shall contain an OAuth2 token. This token may also be embedded within a SAML2 assertion as
635 specified in RFC 7522 **Error! Reference source not found.**10].

636 The `Other` element is a placeholder for incorporating tokens different than the ones contained in the other elements.

637 The `AuthenticationTime` child element shall indicate the time when the authentication process was conducted.

638 The `AuthenticationMethod` child element shall identify the authentication method using an URI.

639 `AuthenticationAssuranceLevels` child element shall include the details of the assurance level of the
640 conducted authentication process within its `AssuranceLevel` child element, and all the details corresponding to the
641 conducted authentication method within its `AuthenticationDetails` child element.

642 `IdentityProofAssuranceLevels` child element shall include the details of the assurance level of the conducted
643 identity proof process.

644 `FederationAssuranceLevels` child element shall include the details of the assurance level of the assertion
645 protocol implemented in the federation.

646

647 5.2.2.15 `UserDetailsType` type

648 Instances of the `UserDetailsType` type shall contain one component that shall allow implementing the semantics
649 corresponding to identity attributes of sender and recipient as specified in clauses 8.2.9 (for the sender), and 8.2.11 (for
650 one recipient) of [2].

651 Instances of the `UserDetailsType` type shall contain one component that shall allow implementing the semantics
652 corresponding to identifiers of sender and recipient as specified in clauses 8.2.10 (for the sender), and 8.2.12 (for one
653 recipient) of [2].

654 Instances of the `UserDetailsType` type shall contain one component that shall allow implementing the semantics
655 corresponding to the details of the assurance levels of the identification validation and authentication processes carried
656 out with sender and recipient as specified in clauses 7.2.16 (for the sender), and 7.2.17 (for one recipient) of [2].

657 This type shall be defined as in XML Schema file whose location is detailed in clause
658 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
659 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
660 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
661
662 <xs:complexType name="UserDetailsType">
663   <xs:sequence>
664     <xs:element ref="Identity"/>
665     <xs:element name="Identifier" type="EntityIdentifierType"/>
666     <xs:element name="AssuranceLevelsDetails" type="AssuranceLevelsDetailsType"/>
667   </xs:sequence>
668 </xs:complexType>
```

669

670 Child element `Identity` shall contain the identity attributes of the user.

671 Child element `Identifier` shall contain the identifier of the user.

672 Child element `AssuranceLevelsDetails` shall contain the details of the assurance levels of the identification
673 validation and authentication processes carried out with the user.

674 5.2.2.16 `SenderDetails` element

675 The `SenderDetails` element shall contain one component that shall have the semantics corresponding to the
676 identity attributes of the sender as specified in clause 8.2.9 of [2].

677 The `SenderDetails` element shall also contain one component that shall have the semantics corresponding to the
678 identifier of the sender as specified in clause 8.2.10 of [2].

679 The `SenderDetails` element shall also contain one component that shall have the semantics corresponding to the
680 details of the assurance levels of the identification validation and authentication processes carried out with the sender as
681 specified in clause 8.2.16 of [2].

682 This element shall be defined as in XML Schema file whose location is detailed in clause
683 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
684 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
685 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
686     <xs:element name="SenderDetails" type="UserDetailsType"/>
687
688
```

689 5.2.2.17 `RecipientDetails` element

690 The `RecipientDetails` element shall contain one component that shall have the semantics corresponding to the
691 identity attributes of one recipient as specified in clause 8.2.11 of [2].

692 The `RecipientDetails` element shall also contain one component that shall have the semantics corresponding to
693 the identifier of one recipient as specified in clause 8.2.12 of [2].

694 The `RecipientDetails` element shall also contain one component that shall have the semantics corresponding to
695 the details of the assurance levels of the identification validation and authentication processes carried out with one
696 recipient as specified in clause 8.2.17 of [2].

697 This element shall be defined as in XML Schema file whose location is detailed in clause
698 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
699 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
700 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
701     <xs:element name="RecipientDetails" type="UserDetailsType"/>
702
703
```

704 5.2.2.18 `RecipientsDelegateDetails` element

705 The `RecipientsDelegateDetails` element shall contain one component that shall have the semantics
706 corresponding to the identity attributes of one delegate of one or more recipients as specified in clause 8.2.13 of [2].

707 The `RecipientsDelegateDetails` element shall also contain one component that shall have the semantics
708 corresponding to the identifier of one delegate of one or more recipients as specified in clause 8.2.14 [2].

709 The `RecipientsDelegateDetails` element shall also contain one component that shall have the semantics
710 corresponding to the details of the assurance levels of the identification validation and authentication processes carried
711 out with one recipient as specified in clause 8.2.18 of [2].

712 This element shall be defined as in XML Schema file whose location is detailed in clause
713 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
714 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

715 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
716
717 <xs:element name="RecipientsDelegateDetails" type="RecipientsDelegateDetailsType"/>
718
719 <xs:complexType name="RecipientsDelegateDetailsType">
720 <xs:sequence>
721 <xs:element ref="Identity"/>
722 <xs:element name="Identifier" type="EntityIdentifierType"/>
723 <xs:element name="AssuranceLevelsDetails" type="AssuranceLevelsDetailsType"/>
724 <xs:element name="DelegatingRecipients" type="ListOfIntegers"/>
725 </xs:sequence>
726 </xs:complexType>
727

```

728 Child element `Identity` shall contain the identity attributes of the delegate.

729 Child element `Identifier` shall contain the identifier of the delegate.

730 Child element `AssuranceLevelsDetails` shall contain the details of the assurance levels of the identification validation and authentication processes carried out with the delegate.

732 Child element `DelegatingRecipients` shall contain a sequence of integers. Each integer shall identify one of the recipients that have delegated into this delegate whose details are provided by the corresponding `RecipientsDelegateDetails` element. For matching the integer values with the delegating recipients, the first recipient in `DelegatingRecipients` child element shall be assigned number 1. If `DelegatingRecipients` element is absent, then the delegate shall act as delegated of all the recipients.

737 5.2.2.19 `SubmissionTime` element

738 The `SubmissionTime` element shall have the semantics specified in clause 8.2.21 of [2].

739 This element shall be defined as in XML Schema file whose location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

742 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
743
744 <xs:element name="SubmissionTime" type="xs:dateTime" minOccurs="0"/>
745

```

746 5.2.2.20 `EvidenceRefersToRecipient` element

747 Each `EvidenceRefersToRecipient` element of the `Components` group shall have the semantics specified in clause 8.2.15 of [2].

749 This element shall be defined as in XML Schema file whose location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

751 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
752
753 <xs:element name="EvidenceRefersToRecipient" type="xs:integer" minOccurs="0"/>
754

```

755 `EvidenceRefersToRecipient`'s integer value shall identify the recipient that the evidence refers to, among all the recipients of the [STRUCTURE] involved in the event that is proved by the evidence. For matching the integer values with the delegating recipients, the first recipient in `RecipientsDetails` element shall be assigned number 1.

759 5.2.2.21 `MessageIdentifier` element

760 The `MessageIdentifier` element shall have the semantics specified in clause 8.2.19 of [2].

761 This element shall be defined as in XML Schema file whose location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```

763 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
764
765 <xs:element name="MessageIdentifier" type="xs:string" minOccurs="0"/>
766

```

767 5.2.2.22 UserContentInfo element

768 The UserContentInfo element shall have the semantics specified in clause 8.2.20 of [2].

769 This element shall be defined as in XML Schema file whose location is detailed in clause
770 [XMLSCHEMALOCATIONFILE] and is copied below for information. "ERDS19522v111-201902.xsd" whose
771 location is detailed in clause [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
772 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
773
774 <xs:element name="UserContentInfo" type="UserContentInfoType"/>
775
776 <xs:complexType name="UserContentInfoType">
777   <xs:sequence>
778     <xs:element name="AppLayerIdentifier" type="xs:string" minOccurs="0"/>
779     <xs:element name="ComposingParts" type="xs:int" minOccurs="0"/>
780     <xs:element ref="PartsInfo"/>
781   </xs:sequence>
782 </xs:complexType>
783
784 <xs:element name="PartsInfo" type="PartsInfoType"/>
785
786 <xs:complexType name="PartsInfoType">
787   <xs:sequence maxOccurs="unbounded">
788     <xs:element ref="PartInfo"/>
789   </xs:sequence>
790 </xs:complexType>
791
792 <xs:element name="PartInfo" type="PartInfoType"/>
793
794 <xs:complexType name="PartInfoType">
795   <xs:sequence>
796     <xs:element name="Identifier" type="xs:string"/>
797     <xs:element name="ContentType" type="xs:string"/>
798     <xs:element ref="ds:DigestMethod" minOccurs="0"/>
799     <xs:element ref="ds:DigestValue" minOccurs="0"/>
800   </xs:sequence>
801 </xs:complexType>
802
803
```

804 The AppLayerIdentifier child shall contain a string indicating the application layer identifier assigned to the user
805 content.

806 The ComposingParts child shall contain an integer value indicating the number of parts of the user content.

807 The PartsInfo child shall contain one or more PartInfo children each one containing detailed information of one
808 of the parts of the user content.

809 Identifier child element of PartInfo shall contain the identifier of the corresponding part of the user content.

810 ContentType child element of PartInfo shall indicate the type of content of the corresponding part of the user
811 content.

812 Child element ds:DigestMethod of PartInfo shall indicate the algorithm used for computing the digest value of
813 the corresponding part of the user content.

814 Child element ds:DigestValue of PartInfo shall contain the base-64 encoded digest value of the corresponding
815 part of the user content as computed using the digest algorithm indicated in the aforementioned ds:DigestMethod
816 child element.

817 5.2.2.23 ForwardedToExternalSystem element

818 The ForwardedToExternalSystem element shall have the semantics specified in clause 8.2.22 of [2].

819 This element shall be defined as in XML Schema file whose location is detailed in clause
820 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
821 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
822
823 <xs:element name="ForwardedToExternalSystem" type="xs:string"/>
824
```

825 The ForwardedToExternalSystem element shall have a string value, which shall describe the external system
826 the ERD Message has been forwarded to.

827 5.2.2.24 TransactionLogInformation element

828 The TransactionLogInformation element shall have the semantics specified in clause 8.2.5 of [2].

829 This element shall be defined as in XML Schema file whose location is detailed in clause
830 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
831 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
832
833 <xs:element name="TransactionLogInformation" type="TransactionLogInformationType"/>
834 <xs:complexType name="TransactionLogInformationType">
835 <xs:sequence>
836 <xs:element ref="TransactionLog" maxOccurs="unbounded"/>
837 </xs:sequence>
838 </xs:complexType>
839
840 <xs:element name="TransactionLog" type="AnyType"/>
```

842 Each TransactionLog child element shall contain one log record, whose format and contents are specific to the
843 underlying transport protocol.

844 5.2.2.25 Extensions element

845 The Extensions element shall have the semantics specified in clause 8.2.23 of [2].

846 This element shall be defined as in XML Schema file whose location is detailed in clause
847 [XMLSCHEMALOCATIONFILE] and is copied below for information.

```
848 <!-- targetNamespace="http://uri.etsi.org/19522/v1#" -->
849
850 <xs:element name="Extensions" type="ExtensionsListType"/>
851 <xs:complexType name="ExtensionsListType">
852 <xs:sequence maxOccurs="unbounded">
853 <xs:element ref="Extension"/>
854 </xs:sequence>
855 </xs:complexType>
856
857 <xs:element name="Extension" type="ExtensionType"/>
858 <xs:complexType name="ExtensionType">
859 <xs:complexContent>
860 <xs:extension base="AnyType">
861 <xs:attribute name="isCritical" type="xs:boolean" use="optional"/>
862 </xs:extension>
863 </xs:complexContent>
864 </xs:complexType>
```

866 Each Extension child element shall contain one component whose content model is not specified within the present
867 document.

868 The isCritical attribute shall indicate whether the extension is critical or non-critical. If this attribute is absent,
869 then the extension shall be designated as non-critical.

870

871 5.2.2.26 ds:Signature element

872 The ds:Signature element shall have the semantics specified in clause 8.2.8 of [2].

873 The ds:Signature shall be present enveloped within the ERDS Evidence.

874 This digital signature should be a XAdES baseline signature as specified in ETSI EN 319 312-1 [3].

875 This digital signature may include the signed qualifying property xades:SignaturePolicyIdentifier,
876 containing the explicit identifier of the signature policy governing the signing and validating processes.

877 Once the XAdES-B-B baseline signature has been generated, it should be augmented to a XAdES-B-T baseline
878 signature by incorporation into the digital signature of the unsigned qualifying property
879 `xades:SignatureTimeStamp`, containing a time-stamp token computed as specified in ETSI EN 319 312-1 [3]

880 The signing certificate of this digital signature shall meet the requirements specified in clause 7.3 of [2].

881

6 Common Service Infrastructure (CSI) formats

6.1 Routing information

Semantic content (from EN 319 522-2)	XML?
ERDS identification	Scheme and identifier, see ERDS metadata below.
ERDS RI	As per ServiceInformation data type from clause 2.3.4.2 of SMP [11]

6.2 Trust information

Semantic content (from EN 319 522-2)	Mapping to EU TSL	Mapping to domain TSL	Mapping to domain PKI
ERDS identification	Service digital identity and service identifier.	Service digital identity and service identifier. URL to TSL location.	Subject name in certificate issued in the domain PKI URL to root-CA certificate and other PKI information.

6.3 Capability management

6.3.1 Recipient metadata (recipient capabilities)

As per OASIS Service Metadata Publisher (SMP Version 1.0 [11]).

6.3.2 ERDS metadata (ERDS capabilities)

EDITOR NOTE: XML definitions still to be produced for the following elements

Clause references refer to EN 319 522-2) [2]:

ERDS identification	Scheme and identifier, see clause 5.2
ERDS domain name	Domain name of ERDS for DNS lookup etc.
ERDS governing body	Identification of the ERDSP providing the ERDS, or – if the ERDS is provided by several co-operating ERDSPs – of the governing organisation.

	Legal person identity as per clause 5.3.2, alternatively natural person identity as per clause 5.3.1.
Protocol/profile/binding	Alternatives as per ETSI EN 319 522-4 and indication of REM/not REM. List of metadata types supported as per clause 6.2.
[optional] Metadata repository	URL of repository for recipient metadata.
[optional] Trust domains	Information on the trust domains (see 9.4) where the ERDS is a member: <ul style="list-style-type: none"> a) EU Qualified indicator (EU TL system referenced) b) URL for location of domain TSL c) Root-certificate for domain PKI
ERDS capabilities	Shall include the following: <ul style="list-style-type: none"> a) Support for the “expiry date and time” feature: Yes/no flag, see clause 6.2.3. b) Authentication LoAs supported: List of LoA levels by scheme and level identifier, see clause 6.2.4. c) [Optional] ERD policy support: List of identifiers (OID or URI) of supported ERD policies, see clause 6.2.5. d) Supported mode of consignment: See clause 6.2.6. e) Support of scheduled delivery: Yes/no flag, see clause 6.2.7.

History

Document history		
0.0.1	03/2017	V0.0.1 for ESI comments
0.0.2	06/2017	V0.0.2 for ESI comments
0.0.3	09/2017	V0.0.3 stable draft for ESI
0.0.4	10/2017	V0.0.4 for public comment