



eIDAS Common Attributes

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eIDAS Technical Specifications
Supporting Documents

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eIDAS eID Technical Subgroup

DOCUMENT HISTORY

Version	Date	Adopted by	Short Description of Changes
1.00	31 Oct 2019	eIDAS eID Technical Subgroup	Initial document version
1.01	20 Nov 2019		Suggested updates by LU
1.02	25/03/2020		Updated formatting
1.03	05/06/2020		Use only simpletype in xsd, remove attribute Nationalities. Clean typos in text and xsd. Added three comments based on questions raised by the group at the meeting in Nov2019. Add PhoneNumber and EmailAddress attributes.
1.04	10/09/2020		Use xs:string type for the attributes TownOfBirth, PhoneNumber, EmailAddress, LegalPhoneNumber, and LegalEmailAddress. Corrected small typo in example §2.3.3.
1.05	10/03/2021		Updated wording on PhoneNumber attribute. Use of ITU-E.164 obligatory.

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1 Introduction

The eIDAS interoperability framework including its national entities (eIDAS-Connector and eIDAS-Service) need to exchange messages including personal and technical attributes to support cross-border identification and authentication processes. For the exchange of messages, the use of the SAML 2.0 specifications has been agreed in the eIDAS technical subgroup and is laid down in the eIDAS Interoperability Architecture.

The core attributes used in eIDAS as defined in Implementing Decision (EU) 2015/1501 have been specified in the “eIDAS Attribute Profile”. In addition to these attributes, the eIDAS interoperability architecture is, however, open for the voluntary exchange of domain-specific attributes. As domains we understand groupings that have a common interest in authenticating natural persons or legal persons and can be as diverse as e.g. health, banking, education, tax, or social media. Domains shall agree on such additional attributes.

Some domain-specific attributes may however overlap. This specification collects and specifies attributes that may be common to domains. Domains are free to use these in their specifications. This specification may also serve as a blueprint for their specification of domain-specific attributes.

Since the eIDAS interoperability architecture should use widely used standards, the following specifications are taken into utmost account in this paper:

- Kantara Initiative eGovernment Implementation Profile of SAML V2.0 [SAMLeGov2.0]
- STORK 2.0 D4.4 First version of Technical Specifications for the cross border Interface [STORK]

1.1. DEFINITIONS

Terms used throughout this document are defined in [eIDAS Interoperability Architecture]. In addition, when referring to SAML technology, an eIDAS-Service can be seen as SAML identity provider and an eIDAS-Connector as a SAML service provider.

1.2. KEY WORDS

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119]. The key word “CONDITIONAL” is to be interpreted as follows:

CONDITIONAL: The usage of an item is dependent on the usage of other items. It is therefore further qualified under which conditions the item is REQUIRED or RECOMMENDED.

2 Attributes

As for the eIDAS minimum data set that is specified in the sibling specification [eIDAS Attribute Profile], this specification reuses the ISA Core Vocabulary to the extent possible. In the case of natural persons refer to the Core Person Vocabulary at https://joinup.ec.europa.eu/asset/core_person/asset_release/core-person-vocabulary, in the case of legal persons also refer to definitions for Core Business Vocabulary at https://joinup.ec.europa.eu/asset/core_business/asset_release/core-business-vocabulary.

The following sections describe the eIDAS common attributes for both natural and legal persons in the context of the Core Vocabulary.

2.1. SAML ATTRIBUTE NAMING

The NameFormat XML attribute in <Attribute> elements MUST be urn:oasis:names:tc:SAML:2.0:attrname-format:uri.

The XML attribute Name value MUST be one of the descriptors defined in sections 2.2 Attributes for Natural Persons, and 2.3 Attributes for Legal Persons.

The optional XML attribute FriendlyName value, if present, MUST be one of the friendly descriptors associated with the Name descriptor.

Examples are included in this document for illustrative purposes (see sections 2.2 and 2.3), it is expected that these schema and examples will be refined before publication of the reference architecture.

2.2. ATTRIBUTES FOR NATURAL PERSONS

2.2.1. Mapping Common Attributes for Natural Persons to ISA Core Vocabulary

The ISA Core Vocabulary describes a highly structured way of encoding person data that is not ideal for message creation or processing with SAML. The approach taken in this profile is to adopt the base type specified by ISA Core Vocabulary rather than the complex data types required for full compatibility with the standard.

The following Common Attributes are specified in this document for natural persons.

Attribute (Friendly) Name	eIDAS Attribute	ISA Core Vocab Equivalent	Notes
Nationality	Nationality	cbc:Nationality	Encoded as a xsd:string element with a restriction of selection : ISO 3166-1 alpha-2 country code values
CountryOfBirth	CountryOfBirth	cva:BirthCountryCvlocation	Encoded as a xsd:string element with a restriction of selection : ISO 3166-1 alpha-2 country code values
TownOfBirth	TownOfBirth	cva:BirthPlaceCvlocation	Encoded as a xsd:string element
CountryOfResidence	CountryOfResidence	adminUnitL1	Encoded as a xsd:string element with a restriction of selection : ISO 3166-1 alpha-2 country code values
PhoneNumber	PhoneNumber	cbc:Telephone	Encoded as a xsd:string element
EmailAddress	EmailAddress	cbc:ElectronicMail	Encoded as a xsd:string element

2.2.2. Attribute Schema

The following attribute schema is based on the definition of Core Person defining the minimum set of classes and properties for description of a natural person according to the ISA Core Vocabulary (https://joinup.ec.europa.eu/asset/core_person/asset_release/core-person-vocabulary).

```
<?xml version="1.0" encoding="UTF-8"?>
```

```

<xsd:schema
  xmlns="http://eidas.europa.eu/attributes/naturalperson"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://eidas.europa.eu/attributes/naturalperson"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  version="1">

  <!--
    Common attributes for a natural person.
  -->

  <xsd:element name="Nationality" type="eidas:NationalityType"
minOccurs="0"/>
  <xsd:element name="CountryOfBirth" type="eidas:CountryOfBirthType"
minOccurs="0"/>
  <xsd:element name="TownOfBirth" type="xs:string" minOccurs="0"/>
  <xsd:element name="CountryOfResidence" type="eidas:CountryOfResidenceType"
minOccurs="0"/>
  <xsd:element name="PhoneNumber" type="xs:string" minOccurs="0"/>
  <xsd:element name="EmailAddress" type="xs:string" minOccurs="0"/>

  <xsd:simpleType name="NationalityType">
    <xsd:annotation>
      <xsd:documentation>
        Nationality of the natural person (Two-letter country codes
according to ISO 3166-1 standard).
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[A-Z][A-Z]"/>
    </xsd:restriction>
  </xsd:simpleType>

  <xsd:simpleType name="CountryOfBirthType">
    <xsd:annotation>
      <xsd:documentation>
        Country of birth of the natural person (Two-letter country
code according to ISO 3166-1 standard).
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
      <xsd:pattern value="[A-Z][A-Z]"/>
    </xsd:restriction>
  </xsd:simpleType>

```



```

<xsd:simpleType name="CountryOfResidenceType">
  <xsd:annotation>
    <xsd:documentation>
      Country of residence of the natural person (Two-letter country
code according to ISO 3166-1 standard).
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:pattern value="[A-Z][A-Z]"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:schema>

```

Figure 1: Schema for natural persons

2.2.3. Nationality (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/Nationality

SAML Attribute FriendlyName: Nationality

```

<saml:Attribute
  FriendlyName="Nationality"
  Name="http://eidas.europa.eu/attributes/naturalperson/Nationality"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:NationalityType">
    LU
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 2: Example of Nationality attribute value

The attribute Nationality represents the nationality of a natural person and is described as an ISO 3166-1 alpha-2 country code. Multiple AttributeValues of this attribute are allowed.

Example: LU (Value for a person with Luxembourgish nationality).

2.2.4. CountryOfBirth (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/CountryOfBirth

SAML Attribute FriendlyName: CountryOfBirth

```

<saml:Attribute
  FriendlyName="CountryOfBirth"
  Name="http://eidas.europa.eu/attributes/naturalperson/CountryOfBirth"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:CountryOfBirthType">
    FR
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 3: example of CountryOfBirth attribute value

The attribute CountryOfBirth represents the country where a natural person was born.

The CountryOfBirth is described as an ISO 3166-1 alpha-2 country code.

Example: FR (Value for a person born in France).

2.2.5. TownOfBirth (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/TownOfBirth

SAML Attribute FriendlyName: TownOfBirth

```

<saml:Attribute
  FriendlyName="TownOfBirth"
  Name="http://eidas.europa.eu/attributes/naturalperson/TownOfBirth"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue>
    Paris
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 4: example of TownOfBirth attribute value

The attribute TownOfBirth represents the local administrative unit where a natural person was born. For example, this attribute could represent a town, a city or a locality.

The TownOfBirth is described as a string element.

Example: Paris (Value for a person born in the city of Paris).

2.2.6. CountryOfResidence (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/CountryOfResidence

SAML Attribute FriendlyName: CountryOfResidence

```

<saml:Attribute
  FriendlyName="CountryOfResidence"
  Name="http://eidas.europa.eu/attributes/naturalperson/CountryOfResidence"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:CountryOfResidenceType">
    BE
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 5: example of CountryOfResidence attribute value

The attribute CountryOfResidence represents the country of the legal address of a natural person.

The CountryOfResidence is described as an ISO 3166-1 alpha-2 country code.

Example: BE (Value for a person residing in Belgium).

2.2.7. PhoneNumber (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/PhoneNumber

SAML Attribute FriendlyName: PhoneNumber

```

<saml:Attribute
  FriendlyName="PhoneNumber"
  Name="http://eidas.europa.eu/attributes/naturalperson/PhoneNumber"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue>
    +34912739000
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 6: example of PhoneNumber attribute value

Contact phone number (preferably a mobile phone number) including the international prefix, MUST be defined as described in [ITU-E.164] recommendations.

Example: +34912739000 (Value for a natural person with a phone number from ES).

2.2.8. EmailAddress (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/naturalperson/EmailAddress

SAML Attribute FriendlyName: EmailAddress

```

<saml:Attribute
  FriendlyName="EmailAddress"
  Name="http://eidas.europa.eu/attributes/naturalperson/EmailAddress"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue>
    john.doe@mail.com
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 7: example of EmailAddress attribute value

Contact email address as described in [RFC2821] (section 2.3.10), [RFC2822] (section 3.4.1) and [RFC3696] (section 3).

Example: john.doe@mail.com (Value for a natural person with email address john.doe@mail.com)

2.3. ATTRIBUTES FOR LEGAL PERSONS

2.3.1. Mapping eIDAS minimum data set for Legal Persons to Core ISA Vocabulary

The ISA Core Vocabulary describes a highly structured way of encoding person data that is not ideal for message creation or processing with SAML. The approach taken in this profile is to adopt the base type specified by ISA Core Vocabulary rather than the complex data types required for full compatibility with the standard.

The following Common Attributes are specified in this document for legal person.

Attribute (Friendly) Name	eIDAS Attribute	ISA Core Vocab Equivalent	Notes
LegalPhoneNumber	LegalPhoneNumber	cbc:Telephone	Encoded as a xsd:string element
LegalEmailAddress	LegalEmailAddress	cbc:ElectronicMail	Encoded as a xsd:string element

2.3.2. Attribute Schema

The following attribute schema is based, where applicable, on the definition of Core Business the minimum set of classes and properties for description of a legal entity according to the ISA Core Vocabulary (https://joinup.ec.europa.eu/asset/core_business/asset_release/core-business-vocabulary).

```

<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema
  xmlns="http://eidas.europa.eu/attributes/legalperson"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://eidas.europa.eu/attributes/legalperson"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  version="1">

  <!--
    Common attributes types for a legal person.
  -->

  <xsd:element name="LegalPhoneNumber" type="xs:string" minOccurs="0"/>
  <xsd:element name="LegalEmailAddress" type="xs:string" minOccurs="0"/>

</xsd:schema>

```

Figure 8: Schema for legal persons

2.3.3. LegalPhoneNumber (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/legalperson/LegalPhoneNumber

SAML Attribute FriendlyName: LegalPhoneNumber

```

<saml:Attribute
  FriendlyName="LegalPhoneNumber"
  Name="http://eidas.europa.eu/attributes/legalperson/LegalPhoneNumber"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:LegalPhoneNumber">
    +34912739001
  </saml:AttributeValue>
</saml:Attribute>

```

Figure 9: example of LegalPhoneNumber attribute value

Contact phone number (preferably a mobile phone number) including the international prefix, following the recommendations in [ITU-E.164].

Example: +34912739001 (Value for a legal person with a phone number from ES).

2.3.4. LegalEmailAddress (Optional)

SAML Attribute Name: http://eidas.europa.eu/attributes/legalperson/LegalEmailAddress

SAML Attribute FriendlyName: LegalEmailAddress

```
<saml:Attribute
  FriendlyName="LegalEmailAddress"
  Name="http://eidas.europa.eu/attributes/legalperson/LegalEmailAddress"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:LegalEmailAddress">
    john.doe@legal.mail.com
  </saml:AttributeValue>
</saml:Attribute>
```

Figure 10: example of LegalEmailAddress attribute value

Contact email address as described in [RFC2821] (section 2.3.10), [RFC2822] (section 3.4.1) and [RFC3696] (section 3).

Example: john.doe@legal.mail.com (Value for a legal person with email address john.doe@legal.mail.com).

2.4. TRANSLITERATION

The attributes specified in this document MUST follow the transliteration requirements defined in [eIDAS Attribute Profile].

2.5. NATURAL AND LEGAL PERSON REPRESENTATIVE

The attributes specified in this document MUST follow the requirements for natural and legal person representative defined in [eIDAS Attribute Profile].

The representative common attributes follow the specifications for natural persons as defined in sections 2.2 Attributes for Natural Persons, and 2.3 Attributes for Legal Persons, except for adding a Prefix “Representative” to the attribute’s FriendlyName element and by amending the SAML attribute name by “representative”. The name prefixes are thus <http://eidas.europa.eu/attributes/naturalperson/representative/> or <http://eidas.europa.eu/attributes/legalperson/representative/>.

3 References

[eIDAS Attribute Profile]	eIDAS: SAML Attribute Profile
[eIDAS Interoperability Architecture]	eIDAS Interoperability Architecture
[ITU-E.164]	ITU E.164: The international public telecommunication numbering plan
[RFC2119]	IETF: RFC 2119: S. Bradner: Key words for use in RFCs to Indicate Requirement Levels
[RFC2821]	IETF: RFC 2821: Simple Mail Transfer Protocol
[RFC2822]	IETF: RFC 2822: Internet Message Format
[RFC3696]	IETF: RFC 3696: Application Techniques for Checking and Transformation of Names
[SAMLGov2.0]	eGovernment Implementation Profile of SAML V2.0 (2010)
[STORK]	D4.4 First version of Technical Specifications for the cross border Interface

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