

eIDAS SAML Attribute Profile

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Abstract:

This specification defines the SAML attributes to be used for the assertion of natural and legal person identity between eIDAS nodes.

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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.

Since the eIDAS interoperability architecture should use widely used standards, the following SAML- based profiles 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

The complete list of attributes included in the eIDAS minimum data sets are defined in the Annex of the interoperability framework implementing act.

All attributes for the eIDAS minimum data sets can be derived from the ISA Core Vocabulary. 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 mandatory and optional elements for both natural and legal persons as required by the eIDAS interoperability framework 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 eIDAS minimum data set 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 Mandatory attributes are required by the Regulation.

Attribute (Friendly) Name	eIDAS MDS Attribute	ISA Core Vocab Equivalent	Notes
FamilyName	Current Family Name	cbc:FamilyName	Encoded as xsd:string
FirstName	Current First Names	cvb:GivenName	Encoded as xsd:string
DateOfBirth	Date of Birth	cvb:BirthDate	Encoded as xsd:date
PersonIdentifier	Unique Identifier	cva:Cvidentifier	Encoded as xsd:string

The following Optional attributes MAY be supplied by a MS if available and acceptable to national law.

Attribute (Friendly) Name	eIDAS MDS Attribute	ISA Core Vocab Equivalent	Notes
BirthName	First Names at Birth	cvb:BirthName	Encoded as xsd:string
BirthName	Family Name at Birth	cvb:BirthName	See above re birth names
PlaceOfBirth	Place of Birth	cva:BirthPlaceCvlocation	Encoded as xsd:string
CurrentAddress	Current Address	cva:Cvaddress	Encoded as multiple xsd:string elements
Gender	Gender	cvb:GenderCode	Encoded as xsd:string with a restriction of selection: Male, Female, Unspecified

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://eidass.europa.eu/attributes/naturalperson"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
```

```

targetNamespace="http://eidas.europa.eu/attributes/naturalperso
n"
elementFormDefault="qualified"
attributeFormDefault="unqualified"
version="1">

<xsd:attribute name="LatinScript" type="xsd:boolean"
default="true"/>

<!--
Mandatory attribute types for a natural person.
-->
<xsd:simpleType name="PersonIdentifierType">
  <xsd:annotation>
    <xsd:documentation>
      Unique identifier for the natural person as defined
by the eIDAS Regulation.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:complexType name="CurrentFamilyNameType">
  <xsd:annotation>
    <xsd:documentation>
      Current family name of the natural person.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute ref="LatinScript"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

<xsd:complexType name="CurrentGivenNameType">
  <xsd:annotation>
    <xsd:documentation>
      Current given names of the natural person.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute ref="LatinScript"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

<xsd:simpleType name="DateOfBirthType">
  <xsd:annotation>
    <xsd:documentation>
      Date of Birth for the Natural Person (Based on
xsd:date i.e. YYYY-MM-DD format).
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:date"/>
</xsd:simpleType>

<!--
Optional attribute types for a natural person.
-->

```

```

<xsd:complexType name="CurrentAddressStructuredType">
  <xsd:annotation>
    <xsd:documentation>
      Current address of the natural person.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="PoBox" type="xsd:string" minOccurs="0"
maxOccurs="1"/>
    <xsd:element name="LocatorDesignator" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="LocatorName" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="CvaddressArea" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="Thoroughfare" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="PostName" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="AdminunitFirstline" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="AdminunitSecondline" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    <xsd:element name="PostCode" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="CurrentAddressType">
  <xsd:annotation>
    <xsd:documentation>
      Current address of the natural person as a base64
encoded string.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:simpleType name="GenderType">
  <xsd:annotation>
    <xsd:documentation>
      Gender of the natural person.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:enumeration value="Male"/>
    <xsd:enumeration value="Female"/>
    <xsd:enumeration value="Unspecified"/>
  </xsd:restriction>
</xsd:simpleType>

<xsd:complexType name="BirthNameType">
  <xsd:annotation>
    <xsd:documentation>
      First name(s) and family name(s) of the natural
person at birth.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:simpleContent>
    <xsd:extension base="xsd:string">
      <xsd:attribute ref="LatinScript"/>
    </xsd:extension>
  </xsd:simpleContent>
</xsd:complexType>

```

```

        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>

    <xsd:complexType name="PlaceOfBirthType">
        <xsd:annotation>
            <xsd:documentation>
                Place of birth for a natural person.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:simpleContent>
            <xsd:extension base="xsd:string">
            </xsd:extension>
        </xsd:simpleContent>
    </xsd:complexType>
</xsd:schema>

```

Fig. 2.2.2 – Schema for natural persons

2.2.3 Unique Identifier (mandatory)

SAML Attribute Name:

<http://eidas.europa.eu/attributes/naturalperson/PersonIdentifier>

SAML Attribute FriendlyName:

PersonIdentifier

```

<saml:Attribute
    FriendlyName="PersonIdentifier"
    Name="http://eidas.europa.eu/attributes/naturalperson/PersonId
entifier"
    NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
    <saml:AttributeValue xsi:type="eidas:PersonIdentifierType">
        ES/AT/02635542Y
    </saml:AttributeValue>

```

Fig. 2.2.3 – example PersonIdentifier attribute value

The unique identifier consists of:

1. The first part is the Nationality Code of the identifier
 - This is one of the ISO 3166-1 alpha-2 codes, followed by a slash (“/”)
2. The second part is the Nationality Code of the destination country or international organization¹
 - This is one of the ISO 3166-1 alpha-2 codes, followed by a slash (“/”)
3. The third part a combination of readable characters
 - This uniquely identifies the identity asserted in the country of origin but does not necessarily reveal any discernible correspondence with the subject's actual identifier (for example, username, fiscal number etc)

Example: ES/AT/02635542Y (Spanish eIDNumber for an Austrian SP)

See section 2.5 Unique Identifier Usage for information regarding the rules for creation and characteristics of these identifiers.

¹ „e.g. ,EU‘ for European Institutions; ,EU‘ has been exceptionally reserved by ISO 3166”

2.2.4 Current Family Name(s) (mandatory)

SAML Attribute Name:

<http://eidas.europa.eu/attributes/naturalperson/CurrentFamilyName>

SAML Attribute FriendlyName:

FamilyName

```
<saml:Attribute
  FriendlyName="FamilyName"
  Name="
http://eidas.europa.eu/attributes/naturalperson/CurrentFamilyName"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:CurrentFamilyNameType">
    Chalk
  </saml:AttributeValue>
```

Fig. 2.2.4 – example CurrentFamilyName attribute value

2.2.5 Current First Name(s) (mandatory)

SAML Attribute Name:

<http://eidas.europa.eu/attributes/naturalperson/CurrentGivenName>

SAML Attribute FriendlyName:

FirstName

```
<saml:Attribute
  FriendlyName="FirstName"
  Name="
http://eidas.europa.eu/attributes/naturalperson/CurrentGivenName"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:CurrentGivenNameType">
    Sarah
  </saml:AttributeValue>
```

Fig. 2.2.5 – example CurrentGivenName attribute value

2.2.6 Date of Birth (mandatory)

SAML Attribute Name:

<http://eidas.europa.eu/attributes/naturalperson/DateOfBirth>

SAML Attribute FriendlyName:

DateOfBirth

```
<saml:Attribute
  FriendlyName="DateOfBirth"
  Name="
http://eidas.europa.eu/attributes/naturalperson/DateOfBirth"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:DateOfBirthType">
    1970-05-28
  </saml:AttributeValue>
```

Fig. 2.2.6 – example DateOfBirth attribute value

Date of Birth includes a date using the following format: YYYY + “-” + MM + “-” + DD (as defined for xsd:date)

- YYYY indicates a four-digit year, 0000 through 9999.
- MM indicates a two-digit month of the year, 01 through 12.
- DD indicates a two-digit day of that month, 01 through 31.

2.2.7 First name(s) and family name(s) at birth

SAML Attribute Name:

<http://eid.as.europa.eu/attributes/naturalperson/BirthName>

SAML Attribute FriendlyName:

BirthName

```
<saml:Attribute
  FriendlyName="BirthName"
  Name="
http://eid.as.europa.eu/attributes/naturalperson/BirthName"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:BirthNameType">
    Sarah Jane Booth
  </saml:AttributeValue>
```

Fig. 2.2.7 – example BirthName attribute value

First name(s) and family name(s) at birth are described as a single text value in line with the Core Person Vocabulary.

2.2.8 Place of Birth

SAML Attribute Name:

<http://eid.as.europa.eu/attributes/naturalperson/PlaceOfBirth>

SAML Attribute FriendlyName:

PlaceOfBirth

```
<saml:Attribute
  FriendlyName="PlaceOfBirth"
  Name="
http://eid.as.europa.eu/attributes/naturalperson/PlaceOfBirth"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:PlaceOfBirthType">
    Peterborough
  </saml:AttributeValue>
```

Fig. 2.2.8 – example PlaceOfBirth attribute value

2.2.9 Current Address

SAML Attribute Name:

<http://eid.as.europa.eu/attributes/naturalperson/CurrentAddress>

SAML Attribute FriendlyName:

CurrentAddress

```
<saml:Attribute
  FriendlyName="CurrentAddress"
  Name="
http://eid.as.europa.eu/attributes/naturalperson/CurrentAddress"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:CurrentAddressType">
    PGVpZGFzOkxvY2F0b3JEZXNpZ25hdG9yPjIyPC9laWRhczpMb2NhdG9yRGVzaWduYXRv
    c j48ZWlkYXM6VGhvc m91Z2hmYXJlPkFyY2FjaWEgQXZlbnVlPC9laWRhczpUaG9yb3Vn
```

Fig. 2.2.9 – example CurrentAddress attribute value (address data base64 encoded)

This attribute describes the current address for the natural person as registered with the MS authority.

Address data is structured by nature and is defined in the attribute schema as a structured XML sequence of `xsd:string` elements. Where appropriate this structure address data follows the Core ISA Vocabulary type `CvAddressType` although this has been simplified to a sequence of `xsd:string` elements.

To enable this data to be passed in a single attribute value this data **MUST** first be base64 encoded as described in section 2.2.3 Responding Attributes, of the eIDAS Message Format specification.

For reference the un-encoded address data can be seen in the following XML snippet.

```
<eidas:LocatorDesignator>22</eidas:LocatorDesignator>
<eidas:Thoroughfare>Arcacia Avenue</eidas:Thoroughfare>
<eidas:PostName>London</eidas:PostName>
<eidas:PostCode>SW1A 1AA</eidas:Postcode>
```

Fig. 2.3.5 – Address data before encoding to base64

2.2.10 Gender

SAML Attribute Name:

`http://eidas.europa.eu/attributes/naturalperson/Gender`

SAML Attribute FriendlyName:

Gender

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

Fig. 2.2.10 – example Gender attribute value

Values for Gender attributes **MUST** be one of the following:

- Male
- Female
- Unspecified

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 Mandatory attributes are required by the Regulation.

Attribute (Friendly) Name	eIDAS MDS Attribute	ISA Core Vocab Equivalent	Notes
LegalName	Current Legal Name	cvb:LegalName	Encoded as xsd:string
LegalPersonIdentifier	Uniquenes Identifier	cva:Cvidentifier	Encoded as xsd:string

The following Optional attributes MAY be supplied by a MS if available and acceptable to national law.

Attribute (Friendly) Name	eIDAS MDS Attribute	ISA Core Vocab Equivalent	Notes
LegalAddress	Current Address	cva:Cvaddress	Encoded as multiple xsd:string elements
VATRegistration	VAT Registration Number	cva:CvbusinessCode	Encoded as xsd:string
TaxReference	Tax Reference Number	cva:CvbusinessCode	Encoded as xsd:string
BusinessCodes	Directive 2012/17/EU Identifier	cva:CvbusinessCode	Encoded as xsd:string
LEI	Legal Entity Identifier (LEI)	cva:CvbusinessCode	Encoded as xsd:string
EORI	Economic Operator Registration and Identification (EORI)	cva:CvbusinessCode	Encoded as xsd:string
SEED	System for Exchange of Excise Data (SEED)	cva:CvbusinessCode	Encoded as xsd:string
SIC	Standard Industrial Classification (SIC)	cva:CvbusinessCode	Encoded as xsd:string

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"?>
<?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">

  <xsd:attribute name="LatinScript" type="xsd:boolean"
default="true"/>

  <!--
    Mandatory attribute types for a legal person.
  -->
  <xsd:simpleType name="LegalPersonIdentifierType">
    <xsd:annotation>
      <xsd:documentation>
        Unique identifier for the legal person as defined
by the eIDAS Regulation.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>

  <xsd:complexType name="LegalNameType">
    <xsd:annotation>
      <xsd:documentation>
        Current legal name for the legal person or
organisation.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:simpleContent>
      <xsd:extension base="xsd:string">
        <xsd:attribute ref="LatinScript"/>
      </xsd:extension>
    </xsd:simpleContent>
  </xsd:complexType>

  <!--
    Optional attribute types for a legal person.
  -->
  <xsd:complexType name="LegalPersonAddressStructuredType">
    <xsd:annotation>
      <xsd:documentation>
        The address the legal person has registered with the
MS authority or operating address if not registered. For a company
this should be the registered address within the MS issuing the eID.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="PoBox" type="xsd:string" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
  </xsd:complexType>

```

```

        <xsd:element name="LocatorDesignator" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="LocatorName" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="CvaddressArea" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="Thoroughfare" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="PostName" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="AdminunitFirstline" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="AdminunitSecondline" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
        <xsd:element name="PostCode" type="xsd:string"
minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>

<xsd:simpleType name="LegalPersonAddressType">
    <xsd:annotation>
        <xsd:documentation>
            The address the legal person has registered with the
MS authority or operating address if not registered. For a company
this should be the registered address within the MS issuing the eID
as a base64 encoded string.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:simpleType name="VATRegistrationNumberType">
    <xsd:annotation>
        <xsd:documentation>VAT - VAT registration number
        </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:simpleType name="TaxReferenceType">
    <xsd:annotation>
        <xsd:documentation>TAX-Ref - tax reference number
        </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:simpleType name="D-2012-17-EUIdentifierType">
    <xsd:annotation>
        <xsd:documentation>D-2012/17/EU - the identifier used
under Directive 2012/17/EU
        </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>

<xsd:simpleType name="LEIType">
    <xsd:annotation>
        <xsd:documentation>LEI - Legal Entity Identifier
        </xsd:documentation>
    </xsd:annotation>

```

```

    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>

  <xsd:simpleType name="EORIType">
    <xsd:annotation>
      <xsd:documentation>EORI - Economic Operator Registration
and Identification
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>

  <xsd:simpleType name="SEEDType">
    <xsd:annotation>
      <xsd:documentation>SEED - System for Exchange of Excise
Data
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>

  <xsd:simpleType name="SICType">
    <xsd:annotation>
      <xsd:documentation>SIC - Standard Industrial
Classification
      </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
  </xsd:simpleType>
</xsd:schema>

```

Fig. 2.3.2 – Schema for legal persons

2.3.3 Unique Identifier (mandatory)

SAML Attribute Name:

<http://eidas.europa.eu/attributes/legalperson/LegalPersonIdentifier>

SAML Attribute FriendlyName:

LegalPersonIdentifier

```

<saml:Attribute
  FriendlyName="LegalPersonIdentifier"
  Name="
http://eidas.europa.eu/attributes/legalperson/LegalPersonIdentifier"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:
LegalPersonIdentifierType">
    ES/AT/02735442Z
  </saml:AttributeValue>
</saml:Attribute>

```

Fig. 2.3.3 – example LegalPersonIdentifier attribute value

Attribute describing a unique identifier for the legal person identity.

See section 2.5 Unique Identifier Usage for information regarding the rules for creation and characteristics of these identifiers.

2.3.4 Legal Name (mandatory)

SAML Attribute Name:

http://eidas.europa.eu/attributes/legalperson/LegalName

SAML Attribute FriendlyName:

LegalName

```
<saml:Attribute
  FriendlyName="LegalName"
  Name="
http://eidas.europa.eu/attributes/legalperson/LegalName"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas: LegalNameType">
    Acme Corporation
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.4 – example LegalName attribute value

Attribute describing the legal name for the legal person authenticating.

2.3.5 Legal Address

SAML Attribute Name:

http://eidas.europa.eu/attributes/legalperson/LegalPersonAddress

SAML Attribute FriendlyName:

LegalAddress

```
<saml:Attribute
  FriendlyName="LegalAddress"
  Name="
http://eidas.europa.eu/attributes/legalperson/LegalPersonAddress"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:
LegalPersonAddressType">PGVpZGFzO0xvY2F0b3JEZXXNpZ25hdG9yPjEYNTwvZWlk
YXM6TG9jYXRvckRlc2lnbmF0b3I+DQo8ZWlkYXM6VGhvcn91Z2hmYXJlPktpbmdzd2F5
```

Fig. 2.3.5 – example LegalPersonAddress attribute value (address data base64 encoded)

This attribute describes the address the legal person has registered with the MS authority or operating address if not registered. For a company this should be the registered address within the MS issuing the eID.

Address data is structured by nature and is defined in the attribute schema as a structured XML sequence of xsd:string elements. Where appropriate this structure address data follows the Core ISA Vocabulary type CvAddressType although this has been simplified to a sequence of xsd:string elements.

To enable this data to be passed in a single attribute value this data MUST first be base64 encoded as described in section 2.2.3 Responding Attributes, of the eIDAS Message Format specification.

For reference the un-encoded address data can be seen in the following XML snippet.


```
<eidas:LocatorDesignator>125</eidas:LocatorDesignator>
<eidas:Thoroughfare>Kingsway</eidas:Thoroughfare>
<eidas:PostName>London</eidas:PostName>
<eidas:PostCode>WC2B 6NH</eidas:Postcode>
```

Fig. 2.3.5 – Address data before encoding to base64

2.3.6 VAT Registration Number

SAML Attribute Name:

<http://eidas.europa.eu/attributes/legalperson/VATRegistrationNumber>

SAML Attribute FriendlyName: VATRegistration

```
<saml:Attribute
  FriendlyName="VATRegistration"
  Name="
http://eidas.europa.eu/attributes/legalperson/VATRegistrationNumber"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:
VATRegistrationNumberType">GB 730 7577 27</saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.6.1 – example VATRegistrationNumber attribute value.

Attribute describing the VAT registration number for the organisation.

2.3.7 Tax Reference Number

SAML Attribute Name:

<http://eidas.europa.eu/attributes/legalperson/TaxReference>

SAML Attribute FriendlyName: TaxReference

```
<saml:Attribute
  FriendlyName="TaxReference"
  Name="
http://eidas.europa.eu/attributes/legalperson/TaxReference"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:TaxReferenceType">
    ABZ1230789
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.7.1 – example TaxReference attribute value.

Attribute describing the Tax Reference number related to the legal person.

2.3.8 Directive 2012/17/EU Identifier

SAML Attribute Name: <http://eid.as.europa.eu/attributes/legalperson/D-2012-17-EUIdentifier>

SAML Attribute FriendlyName: D-2012-17-EUIdentifier

```
<saml:Attribute
  FriendlyName="D-2012-17-EUIdentifier"
  Name=" http://eid.as.europa.eu/attributes/legalperson/D-2012-17-EUIdentifier"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:D-2012-17-EUIdentifierType">
    GB 755 267 1243
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.8.1 – example D-2012-17-EUIdentifier attribute value.

Attribute describing the identifier referred to in Article 3(1) of Directive 2009/101/EC of the European Parliament and of the Council.

Further information regarding this identifier can be found in Directive 2009/101/EC of the European Parliament and of the Council of 16 September 2009 on coordination of safeguards which, for the protection of the interests of members and third parties, are required by Member States of companies within the meaning of the second paragraph of Article 48 of the Treaty, with a view to making such safeguards equivalent (OJ L 258, 1.10.2009, p. 11).

2.3.9 Legal Entity Identifier

SAML Attribute Name: <http://eid.as.europa.eu/attributes/legalperson/LEI>

SAML Attribute FriendlyName: LEI

```
<saml:Attribute
  FriendlyName="LEI"
  Name=" http://eid.as.europa.eu/attributes/legalperson/LEI"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:LEIType">
    ES123567983568437254K
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.9.1 – example LEI attribute value

Attribute describing the Legal Entity Identifier (LEI) referred to in Commission Implementing Regulation (EU) No 1247/2012 of 19 December 2012 laying down implementing technical standards with regard to the format and frequency of trade reports to trade repositories according to Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories (OJ L 352, 21.12.2012, p. 20).

2.3.10 Economic Operator Registration and Identification

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

SAML Attribute FriendlyName: EORI

```
<saml:Attribute
  FriendlyName="EORI"
  Name=" http://eidas.europa.eu/attributes/legalperson/EORI"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:EORIType">
    GB123456789000
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.10.1 – example EORI attribute value

Attribute describing the Economic Operator Registration and Identification (EORI) for the legal person as referred to in Commission Implementing Regulation (EU) No 1352/2013.

Further information regarding Economic Operator Registration and Identification (EORI) can be found in Commission Implementing Regulation (EU) No 1352/2013 of 4 December 2013 establishing the forms provided for in Regulation (EU) No 608/2013 of the European Parliament and of the Council concerning customs enforcement of intellectual property rights (OJ L 341, 18.12.2013, p. 10).

2.3.11 System for Exchange of Excise Data Identifier

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

SAML Attribute FriendlyName: SEED

```
<saml:Attribute
  FriendlyName="SEED"
  Name=" http://eidas.europa.eu/attributes/legalperson/SEED"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:SEEDType">
    GB 00000987ABC
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.11.1 – example SEED attribute value

Attribute describing the System for Exchange of Excise Data (SEED) Excise Number for the legal person.

Further information regarding the SEED identifier can be found in Council Directive 92/12/EEC of 25 February 1992 on the general arrangements for products subject to excise duty and on the holding, movement and monitoring of such products (OJ L 076, 23/03/1992 p. 1 – 13).

2.3.12 Standard Industrial Classification

SAML Attribute Name: http://eid.as.europa.eu/attributes/legalperson/SIC

SAML Attribute FriendlyName: SIC

```
<saml:Attribute
  FriendlyName="SIC"
  Name=" http://eid.as.europa.eu/attributes/legalperson/SIC"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eid.as:SICType">
    3730
  </saml:AttributeValue>
</saml:Attribute>
```

Fig. 2.3.12.1 – example attribute element based on SIC

Attribute describing the Standard Industrial Classification (SIC) code for the legal person.

2.4 Transliteration

Transliteration allows the consumer of identity assertions to determine which attribute values are recorded in Latin and non-Latin script.

Transliteration is optional for all attribute values. Transliterated attribute values should only be provided where transliteration is ambiguous.

If transliteration is unambiguous, (e.g. it follows ISO 9 for transliterating Cyrillic to Latin), then the transliterated value MAY be generated by the consumer of the identity assertion on receipt of the assertion. In this case there is no requirement for a transliterated attribute value to be provided in the attribute assertion from the sending Node.

If transliteration is ambiguous then the transliterated attribute value MUST be provided by an authoritative source (if there is one) and cannot be generated by the Node.

Nodes are not responsible for creating these transliterated attribute values, as they MUST be provided by an authoritative source for the attribute value in question.

For attribute values where transliteration is applicable (as defined by the profile) a modifying attribute `LatinScript="false"` MUST be applied to the `<AttributeValue>`. This `LatinScript` attribute is optional and set to `"true"` by default.

To facilitate transliteration two `<AttributeValue>` statements MUST be included in the `<Attribute>` statement;

1. a Latin script variant of the attribute value
2. a non-Latin script variant which MUST be clearly identified using the `LatinScript` attribute set to `"false"`.

If a transliterated attribute value is included the `LatinScript` attribute MUST be set to `false` indicating a non-latin variant of the attribute value. Nodes MUST take account of the `LatinScript` attribute where present and act accordingly.

In the following example a `FamilyName` attribute value is provided in the original Greek and transliterated versions.

```
<saml:Attribute
  FriendlyName="FamilyName"
  Name="
http://eidas.europa.eu/attributes/naturalperson/CurrentFamilyName"
  NameFormat="urn:oasis:names:tc:SAML:2.0:attrname-format:uri">
  <saml:AttributeValue xsi:type="eidas:CurrentFamilyNameType">
    Onasis
  </saml:AttributeValue>
```

Fig. 2.4.1 – example attribute element based on FamilyName including Latin and non-Latin attribute value.

2.5 Unique Identifier Usage

It is the responsibility of the operating or commissioning Member State to determine how a Unique Identifier is created.

As a baseline requirement the Unique Identifier should not include elements that directly identify the Principal. This follows the requirement for a persistent name identifier in SAML-CORE-2.0, which states that persistent identifiers “*MUST be constructed using pseudo-random values that have no discernible correspondence with the subject's actual identifier (for example, username).*”

Hashing of Unique Identifiers is permitted although this is not mandated for eIDAS.

The Unique Identifier MUST NOT contain any whitespace.

The Unique Identifier MUST NOT exceed a total of 256 characters.

2.5.1 Unique Identifier Stability

The Unique Identifier shall remain unchanged for the lifetime of the account (as created by the underlying scheme or generated by the sending Node). A Unique Identifier shall never be reused, e.g. a new Unique Identifier shall not match a Unique Identifier that has been deleted.

Any service that consumes assertions of identity must assume that the Unique Identifier presented for a particular person may change over time e.g. where the user's digital identity is replaced or repaired. This should be handled by a consuming service using the same matching process as used when an identity is first encountered utilising the Minimum Data Set to identify the Principal within the service.

2.6 Displaying raw attribute data values

Member States may wish to implement a user experience that includes the disclosure of attribute data to be asserted e.g. for the purpose of consent. In some cases complex attribute data, such as Current Address (see 2.2.9), will be base64 encoded when transmitted as part of a SAML Assertion.

Relying parties wishing to display these structured values should do so with reference to the attribute specifications. For examples see, 2.2.9 Current Address and the example encoded and decoded attribute value.

Guidance and example code related to the display of base64 encoded attribute values may be included in subsequent guidance but is not included in this specification.

2.7 Sector Specific Attributes

This specification is concerned with the minimum data set attributes as described in the legal text of the eIDAS Regulation. Where additional sector specific attributes are required Member States and domain experts are invited to develop additional attribute schema describing the type and usage of these attributes for inclusion in Member State eIDAS Node metadata.

General principles for the development of domain specific attribute schema:

1. Observe the principle of data minimisation where possible
2. Avoid complex data structures
3. Clearly define requirements for transliteration
4. Cross-check with existing eIDAS attribute schema to avoid duplication of attribute types
5. Prior to publication of a new attribute schema the CEF eIDAS Technical Subgroup should be consulted for opinion its role as the technical authority for eIDAS architecture.

2.8 Natural and legal person representative

The eIDAS Regulation allows for representation of persons as described in Article 3 (1), which explicitly states this as “a natural person representing a legal person”. In practice this representation is not limited to this scenario but may also include other representation such as a natural person representing another natural person. This has been elaborated on in the eIDAS Cooperation Network where the European Commission presented “... *the idea of covering all scenarios of representation.*” The Cooperation Network discussed whether the scope and limitations of representation, like limited powers of representation or restriction to certain actions, should already be covered. The conclusion was that such limitations should not yet be included in the attributes and that “... *the scope and limitation should be covered by separate documents or processes.*”. The European Commission “... *confirmed there was a legal basis stemming from the implementing decision.*” (quotes taken from the minutes of the 3rd eIDAS Cooperation Network meeting June 20th, 2016) and the technical subgroup was asked to amend the specification to cover all scenarios of a natural persons or a legal persons representing another natural person or a legal person.

In order to express representation in the MDS it is necessary to include an additional person data set that indicates a representative.

The representative attributes **MUST NOT** be explicitly requested in the eIDAS Authentication request. The eIDAS service **MAY** return one representative attribute set in case of representation.

The representative attribute **MUST** be present in addition to the attribute set of the represented person, i.e. in representation cases always 2 sets of MDS attribute are transmitted; The requested attributes of the represented natural person (section 2.2) or the represented legal person (section 2,3) **AND** the attributes of the representative prefixed with “Representative”.

The representative 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://eid.as.europa.eu/attributes/naturalperson/representative/> or <http://eid.as.europa.eu/attributes/legalperson/representative/>.

Application note: Member States or Relying Parties might not support representation in their services, e.g. if the concept of electronic representation does not exist. The MS specific part of the eIDAS Connector should reject responses containing representative attributes in such cases to prevent Relying Parties falsely assuming that the represented person is acting on her own behalf.

The following example illustrates a `RepresentativeFamilyName` attribute and a `RepresentativePersonIdentifier` attribute, which contains the `FamilyName` and the `PersonalIdentifier` of a natural person representative. All other attributes of the eIDAS Attribute Profile may be modified in a similar way.

```
<saml:Attribute
  FriendlyName="RepresentativePersonIdentifier"
  Name=
http://eid.as.europa.eu/attributes/naturalperson/representative/PersonIdentifier
  NameFormat=
  "urn:oasis:names:tc:SAML:2.0:attrnameformat:uri">

  <saml:AttributeValue xsi:type="eid.as:PersonIdentifierType">
    ES/AT/0263542Y
  </saml:AttributeValue>
</saml:Attribute>

<saml:Attribute
  FriendlyName="RepresentativeFamilyName"
  Name=
http://eid.as.europa.eu/attributes/naturalperson/representative/CurrentFamilyName
  NameFormat=
  "urn:oasis:names:tc:SAML:2.0:attrnameformat:uri">

  <saml:AttributeValue xsi:type="eid.as:CurrentFamilyNameType">
    Chalk
  </saml:AttributeValue>
</saml:Attribute>
```