Liberty Alliance Project:

Liberty ID-SIS Personal Profile Service
Specification
Version: 1.0

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Abstract:
The Liberty ID-SIS Personal Profile (ID-SIS-PP) defines a web service. It offers profile information regarding a Principal. ID-SIS-PP is an instance of data oriented identity web service. ID-SIS-PP is characterized by the ability to query and update attribute data and incorporates from other specifications mechanisms for access control and conveying data validation information and usage directives. Readers of this document should be familiar with SOAP, SAML and XML.

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1. Introduction

The ID-SIS Personal Profile is a Liberty identity service that supports identity information regarding Principals themselves. This document normatively describes the ID-SIS Personal Profile service. For rationale and guidance please see the companion document Liberty Identity Personal and Employee Profile Service Implementation Guidelines [LibertyIDSISProfilesGuide]. This document is prescriptive, having precedence over any guidelines or XML schema descriptions. Any published errata is hereby incorporated to this document by reference and as such is normative.

1.1. Notational Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as described in IETF RFC 2119. These keywords are thus capitalized when used to unambiguously specify requirements over protocol and application features and behavior that affect the interoperability and security of implementations. When these words are not capitalized, they are meant in their natural-language sense.

1.2. ID-SIS-PP Based on DST and WSF

The ID-SIS-PP service is an instance of the Data Services Template ([LibertyDST]) specification. All stipulations of [LibertyDST] are hereby incorporated unless expressly waived or modified in this document.

The Liberty architectural framework specifications ensure that a service properly represents the Principal or that the Principal has consented to sharing the data. A service that consults an ID-SIS-PP service MUST adhere to the interface defined in this specification to request information about a Principal. Further, a requesting entity MUST ensure security and privacy through the adherence to the Liberty [LibertyProtSchema] and [LibertyBindProf] specifications. A requester MAY, and frequently will, use the [LibertySOAPBinding] specification for information interchange with a Liberty Personal Profile Service. A Liberty Personal Profile Service MUST adhere to the [LibertyProtSchema] and [LibertyBindProf] specifications in its communications with the requestor and other Liberty-enabled entities. Additionally a Personal Profile Service MUST use the [LibertyInteract] and [LibertyDisco] specifications for identity-related interactions with other Liberty-enabled services. Overviews of the application of these specifications are available in [LibertyIDFFOverview] and [LibertyIDWSFOverview]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ServiceType</td>
<td>urn:liberty:id-sis-pp:2003-08</td>
</tr>
<tr>
<td>Discovery Options</td>
<td>See section 2.1</td>
</tr>
<tr>
<td>Data Schema</td>
<td>See section 5</td>
</tr>
<tr>
<td>SelectType Element</td>
<td>See section 2.2</td>
</tr>
<tr>
<td>Query Language</td>
<td>XPATH subset (see secs 2.2 and 2.3), MAY support full XPATH</td>
</tr>
<tr>
<td>Multiple Query</td>
<td>MAY</td>
</tr>
<tr>
<td>Multiple QueryItem</td>
<td>MUST</td>
</tr>
<tr>
<td>Support Modification</td>
<td>MAY</td>
</tr>
<tr>
<td>Multiple Modify</td>
<td>MAY</td>
</tr>
<tr>
<td>Multiple Modification</td>
<td>MAY</td>
</tr>
<tr>
<td>Extension in Query</td>
<td>MUST NOT</td>
</tr>
<tr>
<td>Extension in Modify</td>
<td>MUST NOT</td>
</tr>
<tr>
<td>Multiple elem uniqueness</td>
<td>Use id XML attribute for AddressCard and MsgContact elements. Use lang and script XML attributes for localizable elements.</td>
</tr>
<tr>
<td>Support changedSince</td>
<td>MAY</td>
</tr>
<tr>
<td>notChangedSince</td>
<td></td>
</tr>
<tr>
<td>Support includeCommonAttributes</td>
<td>MUST</td>
</tr>
<tr>
<td>Data Extension Supported</td>
<td>MAY, using Extension element</td>
</tr>
</tbody>
</table>
1.3. Conformance

A deployment is an instance of an implementation. This specification defines an interface to an ID-SIS-PP service to which an implementation and a subsequent deployment MUST conform. For an AP implementation to conform to this specification (ID-SIS-PP) it MUST adhere to all mandatory aspects of the specification.

A conforming ID-SIS-PP implementation MAY not support some optional ID-SIS-PP containers, elements or some features; this may be referred to as a "minimally conforming implementation". Such an implementation may be labeled as an "ID-SIS-PP implementation" provided that publicly available documentation about the implementation discloses the parts of the schema and the features not supported. All other features and schema components may be assumed to be supported. A service that does not support the complete schema SHOULD only register the discovery option keywords that it supports.

An implementation that supports all of the schema and features specified in this document MAY be labeled as a "full ID-SIS-PP implementation". An implementation that is deficient in any feature or part of the schema MUST NOT be labeled as a "full ID-SIS-PP implementation". A "full ID-SIS-PP implementation" deployment may administratively restrict the schema and the features.

A deployment that supports the complete schema and all features specified in this document MAY be labeled as a "full ID-SIS-PP deployment" or a "full ID-SIS-PP service". A full ID-SIS-PP deployment or service MUST support all of the schema and features for all Principals wishing to use them, with the exception of those schema components and features excluded to a Principal as the result of a policy decision.

A deployment that only supports some subset of ID-SIS-PP may be labeled as an "ID-SIS-PP deployment" or "ID-SIS-PP service" provided that the deployment publicly discloses the subset that it supports.

1.4. Namespaces

The namespace for the ID-SIS-PP service is designated by the URI

\[ \text{urn:liberty:id-sis-pp:2003-08} \]

This namespace is abbreviated as "pp:" in this document. If the namespace has been omitted at any place in this document, "pp:" is to be considered to be the default namespace. The namespace URI is also used as ServiceType designator.

For enumerator URNs the version number is not usually used. As enumerator URNs are separate from XML this does not have an adverse effect.

Table 2. Referenced XML Namespaces

<table>
<thead>
<tr>
<th>Prefix</th>
<th>URI</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ds</td>
<td><a href="http://www.w3.org/2000/09/xmldsig">http://www.w3.org/2000/09/xmldsig</a></td>
<td>XML DSIG [RFC3275] (for SignKey type)</td>
</tr>
<tr>
<td>xml</td>
<td><a href="http://www.w3.org/TR/REC-xml">http://www.w3.org/TR/REC-xml</a></td>
<td>XML Definition [XML] (for xml:lang)</td>
</tr>
</tbody>
</table>

1.5. Extension and Namespace Reservation

There are six methods for accomplishing extensions:

1. by adding more enumerators to existing attributes
2. by adding new attributes to existing containers

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3. by creating new containers

4. by creating new discovery option keywords

5. by extending the supported subset of XPATH expressions

6. by schema extension

ID-SIS-PP elements that have enumerated values use URIs as values ("values" may be referred to as "enumerators"). Each element’s description details the authority for adopting new official enumeration values. See [LibertyReg] for more information.

All containers and elements defined in the ID-SIS-PP schema have an Extension element which permits arbitrary schema extension. An implementation MAY support schema extension, but is not required to do so. If an implementation does support schema extension then in MAY register the corresponding discovery option keyword urn:liberty:dst:can:extend.
2. Discovery and Queries

2.1. Discovery Option Keywords

ID-SIS-PP defines a number of discovery keywords to be included as Option elements in discovery registrations and queries, see [LibertyDisco]. Some keywords express the availability of data; other keywords express the ability to update data. An attribute provider MAY advertise the ability to update data even if it currently does not have a given data item populated for the Principal.

2.1.1. Data Availability Discovery Option Keywords

The keywords that express data availability extract selected components from the profile as if an XPATH expression were applied. An implementation is not required to use XPATH if the results are equivalent. Presence of the keyword implies that the corresponding data can be obtained if queried. However, the data may not be available due to permissions, or race conditions between data removal and updates to the discovery service.
Table 3. Data Availability Discovery Option Keywords

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Equivalent XPATHs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>urn:liberty:id-sis-pp</td>
<td>/pp:PP</td>
<td>Has some ID-SIS-PP data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:home</td>
<td>[pp:PP:AddressCard [pp:AddrType=&quot;urn:liberty:id-sis-pp:addrType:home&quot;]]</td>
<td>Has some address card data corresponding to the home address</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:work</td>
<td>[pp:PP:AddressCard [pp:AddrType=&quot;urn:liberty:id-sis-pp:addrType:work&quot;],</td>
<td>Has some address card or messaging contact data corresponding to the</td>
</tr>
<tr>
<td></td>
<td>/pp:PP:MsgContact [pp:MsgType=&quot;urn:liberty:id-sis-pp:msgType:work&quot;]</td>
<td>office address</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:personal</td>
<td>/pp:PP:MsgContact [pp:MsgType=&quot;urn:liberty:id-sis-pp:msgType:personal&quot;]</td>
<td>Has some messaging contact data corresponding to personal contact</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:mobile</td>
<td>/pp:PP:MsgContact [pp:MsgType=&quot;urn:liberty:id-sis-pp:msgType:mobile&quot;]</td>
<td>Has some messaging contact data for mobile contact</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:vacation</td>
<td>/pp:PP:MsgContact [pp:MsgType=&quot;urn:liberty:id-sis-pp:msgType:vacation&quot;],</td>
<td>Has some messaging contact or address data for vacation contact</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:address</td>
<td>/pp:PP:AddressCard</td>
<td>Has some address card data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:cn</td>
<td>/pp:PP:CommonName</td>
<td>Has some common name data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:informalName</td>
<td>/pp:PP:InformalName,</td>
<td>Has informal name</td>
</tr>
<tr>
<td></td>
<td>/pp:PP: LinformalName</td>
<td></td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:facade</td>
<td>/pp:PP:Facade</td>
<td>Has some facade data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:keys</td>
<td>/pp:PP:SignKey,</td>
<td>Has either or both keys</td>
</tr>
<tr>
<td></td>
<td>/pp:PP:EncryptKey</td>
<td></td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:demographics</td>
<td>/pp:PP:Demographics</td>
<td>Has some demographics data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:emergency</td>
<td>/pp:PP:EmergencyContact,</td>
<td>Has some emergency contact data</td>
</tr>
</tbody>
</table>

An attribute provider MUST NOT register a data availability discovery option keyword if it is probable that the data will not be available. For example if an AP does not yet have the data, it MUST NOT register the keyword with an intent of gathering the data by the time it is requested or with the intent of gathering the data when requested via the Interaction Service protocol [LibertyInteract]. An attribute provider SHOULD NOT register a keyword if the Principal has set permissions on the data such that it can not be released under any plausible circumstances.
2.1.2. Data Update Discovery Option Keywords

The data update discovery option keywords express the willingness and ability of the attribute provider to store some data corresponding to the given XPATH expression. These keywords do not imply that the AP currently has any data regarding the containers referenced by the keyword.

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Equivalent XPATHs</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>urn:liberty:id-sis-pp:can</td>
<td>/pp:PP</td>
<td>Can store some ID-SIS-PP data</td>
</tr>
<tr>
<td>urn:liberty:id-sis-pp:can:cn</td>
<td>/pp:PP/pp:CommonName</td>
<td>Can store some common name data</td>
</tr>
</tbody>
</table>

An implementation MUST NOT register a data update discovery option keyword unless some Modify request regarding the data referenced by the keyword can plausibly succeed. For example, if an AP is read only, it MUST
NOT register any data update discovery option keywords. Similarly, if the underlying database is incapable of storing the data, then the keyword MUST NOT be advertised.

An implementation that registers a data update discovery option keyword SHOULD be capable of accepting any Modify request (subject to permissions) regarding that category of data, and SHOULD support all elements specified in ID-SIS-PP schema for that category.

An implementation MAY choose to support a read-only service. Such an implementation MUST NOT register any data update discovery option keywords.

2.2. Supported XPATH Expressions for Queries

The [LibertyDST] specifies a Query element that potentially contains several QueryItem elements, which in turn each contain a Select element. [LibertyDST] does not define the contents of the Select element, SelectType. ID-SIS-PP defines SelectType as follows:

```
<x:simpleType name="SelectType">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
```

The Select string holds an XPATH expression. An ID-SIS-PP implementation MAY support full XPATH expressions [XPATH] as a Select expression. If it does support full XPATH expressions, it MAY advertise the discovery option keyword urn:liberty:dst:fullXPath. Conforming implementations of the ID-SIS-PP specification MUST support at a minimum the following the XPATH expressions as Select expressions:

1. slash-separated path to any depth. The path is always anchored at the document root and may not contain wild cards or empty nodes. ID-SIS-PP may be extended; the the current complete set of all possible slashed paths is as follows:

```
/pp:PP
  /pp:PP/pp:informalName
  /pp:PP/pp:lInformalName
  /pp:PP/pp:commonName
    /pp:PP/pp:commonName/pp:CN
    /pp:PP/pp:commonName/pp:LCN
    /pp:PP/pp:commonName/pp:AltCN
    /pp:PP/pp:commonName/pp:AltLN
    /pp:PP/pp:commonName/pp:SN
    /pp:PP/pp:commonName/pp:LSN
    /pp:PP/pp:commonName/pp:MN
    /pp:PP/pp:commonName/pp:LMN
  /pp:PP/pp:LegalIdentity
    /pp:PP/pp:LegalIdentity/pp:LegalName
    /pp:PP/pp:LegalIdentity/pp:IllegalName
    /pp:PP/pp:LegalIdentity/pp:AnalysisName/pp:PersonalTitle
    /pp:PP/pp:LegalIdentity/pp:AnalysisName/pp:PersonalTitle
```

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When slash-separated paths are used, only the container selected by the path and its contents will be returned.

2. Selection of AddressCard by an exact match on the contents of a leaf element for the following leaf elements:
251 a. pp:AddrType
252 b. pp:Nick
253 c. pp:LNick
254 Only one of the tests needs to be supported in any one slashed path. Such bracketed expression may also appear within (i.e., in the middle of) a slashed path.

256 3. Selection of MsgContact by an exact match on the contents of a leaf element for the following leaf elements:

258 a. pp:Nick
259 b. pp:LNick
260 c. pp:MsgTechnology
261 d. pp:MsgMethod
262 e. pp:MsgType
263 Nick and LNick need only be testable in isolation. MsgTechnology, MsgMethod, and MsgType can be tested in isolation or simultaneously combined with an AND operator. Other operators do not need to be supported. Such bracketed expression may also appear within a slashed path.

266 4. Selection by the id XML attribute of AddressCard or MsgContact. This test may appear within a slashed path and need not be combinable with any other test.


270 XML namespaces MUST be fully supported in the XPATH expressions by all implementations of ID-SIS-PP, including minimally conforming implementations. The XML namespace mechanism provides flexibility that allows any extension attributes to coexist with standard attributes.

273 Subject to permissions and usage directives, the query MUST return a result that matches the XPATH expression and is extracted from the ID-SIS Personal Profile XML document according to the rules specified in [XPATH]. The result MAY be empty if no elements match the XPATH expression.

276 2.3. Supported XPATH Expressions for Modifies

277 For Modify requests, the following slashed paths MUST be supported in Select elements (see [LibertyDST]):

278 /pp:PP
279 /pp:PP/pp:InformalName
280 /pp:PP/pp:LNinformalName
281 /pp:PP/pp:CommonName
282 /pp:PP/pp:LegalIdentity
283 /pp:PP/pp:EmploymentIdentity
284 /pp:PP/pp:AddressCard
285 /pp:PP/pp:MsgContact
286 /pp:PP/pp:Facade
287 /pp:PP/pp:Demographics
288 /pp:PP/pp:SignKey
289 /pp:PP/pp:EncryptKey
290 /pp:PP/pp:EmergencyContact
/pp:PP/pp:LEmergencyContact

This set of slashed paths defines the minimal granularity of updates that MUST be supported. Updates to the containers listed above SHOULD be atomic when feasible.

An implementation MAY support full XPATH for modifies. In such cases the implementation MAY restrict the set of slashed paths to the list above. If an implementation supports full XPATH for querying, then it MUST also support full XPATH for modifies.
3. Processing Rules and Other Considerations

3.1. Repeated Queries Not Required to Report the Same Data

An ID-SIS-PP instance is NOT REQUIRED to report the same results to two instances of the same query. An ID-SIS-PP instance SHOULD report the same results to the same query made by the same client, unless an update (Modify or out-of-band) has occurred in the interim. An ID-SIS-PP instance MAY use the Interaction Service protocol [LibertyInteract] or out-of-band means to determine which data to return.

An ID-SIS-PP provider is guided by its policies, the permissions the Principal has set, and the interaction with the Principal, in determining the data to be returned in response to a query. Clients should use the data based on the data’s semantic meaning as specified here and further qualified by the acc (Attribute Collection Context) XML attributes [LibertyDST] that may be present in the query response. A client SHOULD NOT attempt to use ID-SIS-PP as a transparent data store, as there can be multiple updates, permission, and policy reasons that impede the transparency.

3.2. Support of Multiple Modifications Not Required

A minimally compliant implementation is not required to support multiple Modification elements. The Modify operation functions as described in [LibertyDST]. The Modify operation has the additional relaxation that a minimally compliant ID-SIS-PP implementation MAY refuse a Modify request with multiple Modification elements, provided all processing rules specified in [LibertyDST] are followed regarding failure to support multiple Modification elements.

Implementations SHOULD support multiple Modification elements when feasible. If an implementation supports multiple Modification elements it MAY register the discovery option keyword urn:liberty:dst:multiplModification.

As specified in [LibertyDST], a minimally compliant ID-SIS-PP implementation MUST support multiple QueryItem elements.

Support for Multiple Modify and Query elements is not required.
4. Qualifying Attributes with XML Attributes

4.1. ID-SIS-PP-Specific XML Attributes

4.1.1. nameScheme

Synopsis
Scheme for analyzing a name into components

Data type
anyURI

Example
Schemes are culture-dependent; therefore, it is expected that the list will be expanded. The enumerators are URIs to facilitate expansion without conflict. Currently the following enumerators are defined:

- urn:liberty:id-sis-pp:nameScheme:firstlast
- urn:liberty:id-sis-pp:nameScheme:firstmiddletlast

Additional enumerators can be defined as specified in [LibertyReg].

4.2. Use of id XML Attribute

An id XML attribute is allowed on any element; it is mandatory for AddressCard and MsgContact containers, because there can be multiple of each as children of the PP container. The id XML attribute has uniqueness properties as specified in [LibertyDST], i.e., the id is unique among elements within the conceptual underlying XML document.

A client that adds AddressCard and MsgContact containers MUST supply an id when making a Modify request. A client MAY supply an id XML attribute for any element as part of the Modify request, but a server is not required to store the id XML attribute except for AddressCard and MsgContact containers.

AddressCard and MsgContact containers that are populated out-of-band MUST provision the id XML attribute; this can be accomplished in an implementation-dependent manner. Out-of-band provisioning MAY supply an id XML attribute for any element.

Once an id XML attribute has been provisioned for AddressCard and MsgContact containers, whether via Modify or by out-of-band update, it MUST remain unaltered and MUST be returned by queries regarding these containers until another Modify or out-of-band update occurs. Modifies and out-of-band updates that do not create these containers, but merely modify their contents, SHOULD not alter the id XML attribute.

Modifies and out-of-band updates that do not create an element, but merely modify it’s contents, SHOULD not alter the id XML attribute. With the exceptions of AddressCard or MsgContact containers, once an id XML attribute has been provisioned for an element, whether via Modify or by out-of-band update, it MUST remain unaltered if it is returned by queries regarding the element until another Modify or out-of-band update occurs.
5. Containers and Attributes of the ID-SIS-PP

5.1. PP

Synopsis
ID-SIS Personal Profile

Cardinality
0-1

XML schema:

```xml
<xs:element name="PP" type="PPType"/>
<xs:complexType name="PPType">
  <xs:sequence>
    <xs:element ref="InformalName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LInformalName" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="CommonName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LegalIdentity" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="EmploymentIdentity" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="AddressCard" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="MsgContact" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Facade" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Demographics" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="SignKey" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="EncryptKey" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="EmergencyContact" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LEmergencyContact" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.2. InformalName

Synopsis
Screen name of the Principal

Data type
cis

Cardinality
0-1

5.3. LInformalName

Synopsis
Localized screen name of the Principal

Data type
cis

Cardinality
0-n
5.4. CommonName

Synopsis: The name the user prefers to be referred to with in everyday situations.

Cardinality: 0-1

XML schema:

```xml
<xs:element name="CommonName" type="CommonNameType"/>
<xs:complexType name="CommonNameType">
  <xs:sequence>
    <xs:element ref="CN" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LCN" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="AltCN" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="AnalyzedName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.4.1. CN

Synopsis: Everyday name in the Latin writing system.

Data type: cis

Cardinality: 0-1

5.4.2. LCN

Synopsis: Everyday name in a local writing system.

Data type: cis

Cardinality: 0-n

5.4.3. AltCN

Synopsis: Additional everyday names in the Latin writing system.

Data type: cis

Cardinality: 0-n
5.4.4. LAltCN

Synopsis: An additional everyday name in a local writing system

Data type: cis
Cardinality: 0-n

5.4.5. AnalyzedName

Synopsis: Name analyzed (decomposed) into its components

Cardinality: 0-1

XML-attributes: nameScheme

5.4.5.1. PersonalTitle

Synopsis: Personal or honorary title

Data type: cis
Cardinality: 0-1

5.4.5.2. LPersonalTitle

Synopsis: Personal title in a local writing system

Data type: cis
Cardinality: 0-n
5.4.5.3. FN

Synopsis: First name, Given name
Data type: cis
Cardinality: 0-1

5.4.5.4. LFN

Synopsis: First name in a local writing system
Data type: cis
Cardinality: 0-n

5.4.5.5. SN

Synopsis: Surname (familyname)
Data type: cis
Cardinality: 0-1

5.4.5.6. LSN

Synopsis: Surname in a local writing system
Data type: cis
Cardinality: 0-n

5.4.5.7. MN

Synopsis: Middle name or initial
Data type: cis
Cardinality: 0-1

5.4.5.8. LMN

Synopsis: Middle name or initial in a local writing system
Data type: cis
Cardinality: 0-n
5.5. LegalIdentity

Synopsis
Official legal identification of the Principal

Cardinality
0-1

XML schema:

```xml
<xs:element name="LegalIdentity" type="LegalIdentityType"/>
<xs:complexType name="LegalIdentityType">
  <xs:sequence>
    <xs:element ref="LegalName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="AnalyzedName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="VAT" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="DOB" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Gender" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="MaritalStatus" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.5.1. LegalName

Synopsis
Full legal name in the Latin writing system

Data type
cis

Cardinality
0-1

5.5.2. LLegalName

Synopsis
Full legal name in a local writing system

Data type
cis

Cardinality
0-n

5.5.3. VAT

Synopsis
Fiscal identification number

Cardinality
0-1
517  **Processing rules**

518  If AP chooses to store the VAT attribute, AP MUST implement sufficient permissions enforcement, policies, audit trail, and usage directives to ensure that the VAT is only used for legitimate purposes. AP MUST NOT disclose the VAT to inappropriate parties. It is RECOMMENDED that this attribute not be populated.

521  **XML schema:**

522

523  <xs:element name="VAT" type="VATType"/>
524  <xs:complexType name="VATType">
525    <xs:sequence>
526      <xs:element ref="IDValue" minOccurs="1" maxOccurs="1"/>
527      <xs:element ref="IDType" minOccurs="0" maxOccurs="1"/>
528      <xs:element ref="Extension" minOccurs="0"/>
529    </xs:sequence>
530    <xs:attributeGroup ref="commonAttributes"/>
531  </xs:complexType>

535  **5.5.3.1. IDValue**

536  **Synopsis** Identification number value
537  **Data type** ces
538  **Cardinality** 0-1

539  **5.5.3.2. IDType**

540  **Synopsis** Type of identification number stored in a VAT or AltID attribute
541  **Data type** URI enumeration
542  **Cardinality** 0-1

543  Enumerators are be defined as specified in [LibertyReg]. The current enumerators are:

544  urn:liberty:id-sis-pp:IDType:ukvat
545  urn:liberty:id-sis-pp:IDType:itcif
546  urn:liberty:id-sis-pp:IDType:ptnif
547  urn:liberty:id-sis-pp:IDType:esnif
548  urn:liberty:id-sis-pp:IDType:fialv
549  urn:liberty:id-sis-pp:IDType:rfid

554  **5.5.4. AltID**

555  **Synopsis** Other identification number(s)
556  **Cardinality** 0-n
Processing rules

If an AP chooses to store AltID attributes, the AP MUST implement sufficient permissions enforcement, policies, audit trail, and usage directives to ensure that AltID is used for legitimate purposes only. AP MUST NOT disclose AltID to inappropriate parties. It is RECOMMENDED that this attribute not be populated.

XML schema:

See VAT Section 5.5.3 for descriptions of IDValue and IDType.

5.5.5. DOB

Synopsis Date of Birth

Data type date

Cardinality 0-1

If an AP chooses to store the DOB attribute, the AP MUST implement sufficient permissions enforcement, policies, audit trail, and usage directives to ensure that DOB is used only for legitimate purposes. An AP MUST NOT disclose DOB to inappropriate parties. It is RECOMMENDED that this attribute not be populated. It is RECOMMENDED that the Age attribute be used instead when feasible.

5.5.6. Gender

Synopsis Gender of the Principal

Data type URI enumeration

Cardinality 0-1

The following enumerators MUST be supported:

   urn:liberty:id-sis-pp:gender:m (male)
   urn:liberty:id-sis-pp:gender:f (female)

5.5.7. MaritalStatus

Synopsis Marital status, such as single or married
The following enumerators MUST be supported:

- urn:liberty:id-sis-pp:maritalstatus:single
- urn:liberty:id-sis-pp:maritalstatus:married
- urn:liberty:id-sis-pp:maritalstatus:commonlawmarriage
- urn:liberty:id-sis-pp:maritalstatus:separated
- urn:liberty:id-sis-pp:maritalstatus:divorced
- urn:liberty:id-sis-pp:maritalstatus:widowed
- urn:liberty:id-sis-pp:maritalstatus:dead
- urn:liberty:id-sis-pp:maritalstatus:notapplicable

The list of enumerators MAY be extended as described in [LibertyReg].

### 5.6. EmploymentIdentity

**Synopsis**
Minimal Employer and employment details

**Cardinality**
0-1

**XML schema:**

```xml
<xs:element name="EmploymentIdentity" type="EmploymentIdentityType"/>  
<xs:complexType name="EmploymentIdentityType">  
  <xs:sequence>  
    <xs:element ref="JobTitle" minOccurs="0" maxOccurs="1"/>  
    <xs:element ref="LJobTitle" minOccurs="0" maxOccurs="unbounded"/>  
    <xs:element ref="O" minOccurs="0" maxOccurs="1"/>  
    <xs:element ref="LO" minOccurs="0" maxOccurs="1"/>  
    <xs:element ref="AltO" minOccurs="0" maxOccurs="unbounded"/>  
    <xs:element ref="AltLO" minOccurs="0" maxOccurs="unbounded"/>  
    <xs:element ref="Extension" minOccurs="0"/>  
  </xs:sequence>  
  <xs:attributeGroup ref="commonAttributes"/>  
</xs:complexType>
```

#### 5.6.1. JobTitle

**Synopsis**
Job title in Latin script

**Data type**
cis

**Cardinality**
0-1
5.6.2. LJobTitle

Synopsis: Job title in a local writing system
Data type: cis
Cardinality: 0-n

5.6.3. O

Synopsis: Informal name of an organization
Data type: cis
Cardinality: 0-1

5.6.4. LO

Synopsis: Localized version of organization’s informal name
Data type: cis
Cardinality: 0-1

5.6.5. AltO

Synopsis: Additional informal names of an organization
Data type: cis
Cardinality: 0-n

5.6.6. AltLO

Synopsis: Localized version of an organization’s informal name
Data type: cis
Cardinality: 0-n

5.7. AddressCard

Synopsis: An address card data structure for ID-SIS-PP
Cardinality: 0-n
XML schema:

```
<xs:element name="AddressCard" type="AddressCardType"/>
<xs:complexType name="AddressCardType">
  <xs:sequence>
    <xs:element ref="AddrType" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Address" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Nick" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LComment" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.7.1. AddrType

Synopsis: Defines the role of an AddressCard

Data type: URI enumeration

Cardinality: 0-n

Following enumerators MUST be supported:

```
urn:liberty:id-sis-pp:addrType:domicile legal residence
urn:liberty:id-sis-pp:addrType:home everyday home
urn:liberty:id-sis-pp:addrType:work work address, the office where the person works
urn:liberty:id-sis-pp:addrType:vacation holiday address
urn:liberty:id-sis-pp:addrType:emergency structured emergency contact
```

Additional enumerators MAY be defined as described in [LibertyReg].

5.7.2. Address

Synopsis: Commonly used group of postal address fields

Cardinality: 0-1
Processing rules

AP SHOULD implement permissions enforcement that allows only C and PostalCode attributes to be provided to those SPs that do not need the entire address.

XML schema:

```xml
<xs:element name="Address" type="AddressType" />
<xs:complexType name="AddressType">
  <xs:sequence>
    <xs:element ref="PostalAddress" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LPostalAddress" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="PostalCode" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="L" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LL" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="St" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LSt" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="C" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.7.2.1. PostalAddress

Synopsis: Detailed local address, e.g., street or block address with house nº, etc.

Data type: cis

Cardinality: 0-1

Multiline address MUST be represented using the dollar sign ("$") to mark the line breaks.

5.7.2.2. LPostalAddress

Synopsis: Street address in a local writing system

Data type: cis

Cardinality: 0-n

5.7.2.3. PostalCode

Synopsis: Postal code, such as zip code

Data type: cis

Cardinality: 0-1
5.7.2.4. L

Synopsis: Locality or city
Data type: cis
Cardinality: 0-1

5.7.2.5. LL

Synopsis: Locality or city in a local writing system
Data type: cis
Cardinality: 0-n

5.7.2.6. St

Synopsis: State or province, if applicable
Data type: cis
Cardinality: 0-1

5.7.2.7. LSt

Synopsis: State or province in a local writing system
Data type: cis
Cardinality: 0-n

5.7.2.8. C

Synopsis: Country
Data type: ISO 3166 country code
Cardinality: 0-1

5.7.3. Nick

Synopsis: Nickname identifying an item in a user interface
Data type: cis
Cardinality: 0-1
Nickname SHOULD NOT be printed in address label. The nickname can not and SHOULD NOT be used as machine readable identification of any data item. Nicknames are not unique.

### 5.7.4. LNick

**Synopsis**
Local script version of nickname

**Data type**
cis

**Cardinality**
0-n

### 5.7.5. LComment

**Synopsis**
Private comment about a data object

**Data type**
cis

**Cardinality**
0-1

### 5.8. MsgContact

**Synopsis**
Generic phone, email, or instant messaging contact information

**Cardinality**
0-n

**XML schema:**

```xml
<xs:element name="MsgContact" type="MsgContactType"/>
<xs:complexType name="MsgContactType">
  <xs:sequence>
    <xs:element ref="Nick" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LComment" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="MsgType" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="MsgMethod" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="MsgTechnology" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="MsgProvider" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="MsgAccount" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="MsgSubaccount" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

### 5.8.1. MsgType

**Synopsis**
Usage role of the messaging contact

**Data type**
URI enumeration
Following enumerators MUST be supported:

urn:liberty:id-sis-pp:msgType:personal
urn:liberty:id-sis-pp:msgType:work
urn:liberty:id-sis-pp:msgType:mobile
urn:liberty:id-sis-pp:msgType:vacation
urn:liberty:id-sis-pp:msgType:emergency

Additional enumerators MAY be defined as described in [LibertyReg].

5.8.2. MsgMethod

Synopsis: Messaging method associated with this contact or device

Data type: URI

Cardinality: 0-n

Following enumerators MUST be supported:

urn:liberty:id-sis-pp:msgMethod:voice
urn:liberty:id-sis-pp:msgMethod:fax
urn:liberty:id-sis-pp:msgMethod:email
urn:liberty:id-sis-pp:msgMethod:pager
urn:liberty:id-sis-pp:msgMethod:im

Additional enumerators MAY be defined as described in [LibertyReg].

5.8.3. MsgTechnology

Synopsis: Messaging technology or protocol associated with this contact or device

Data type: URI enumeration

Cardinality: 0-n

XML-attributes: msgLimit
Following enumerators MUST be supported:

- urn:liberty:id-sis-pp:msgTechnology:pots
- urn:liberty:id-sis-pp:msgTechnology:voip
- urn:liberty:id-sis-pp:msgTechnology:fax
- urn:liberty:id-sis-pp:msgTechnology:email
- urn:liberty:id-sis-pp:msgTechnology:sms
- urn:liberty:id-sis-pp:msgTechnology:mms
- urn:liberty:id-sis-pp:msgTechnology:pager
- urn:liberty:id-sis-pp:msgTechnology:aol
- urn:liberty:id-sis-pp:msgTechnology:icq
- urn:liberty:id-sis-pp:msgTechnology:yahoo
- urn:liberty:id-sis-pp:msgTechnology:msn
- urn:liberty:id-sis-pp:msgTechnology:mim
- urn:liberty:id-sis-pp:msgTechnology:irc

Additional enumerators MAY be defined as described in [LibertyReg].

5.8.4. MsgProvider

Synopsis
Service provider or domain that provides messaging services

Data type
ces

Cardinality
0-1

5.8.5. MsgAccount

Synopsis
Account or address information within the messaging provider

Data type
ces

Cardinality
0-1

5.8.6. MsgSubaccount

Synopsis
Subaccount within a messaging account, such as voice mail box under phone number

Data type
ces

Cardinality
0-1

5.9. Facade

Synopsis
Principal’s look and sound facade

Cardinality
0-1
XML schema:

```
<xs:element name="Facade" type="FacadeType"/>
<xs:complexType name="FacadeType">
  <xs:sequence>
    <xs:element ref="MugShot" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="WebSite" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="NamePronounced" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="GreetSound" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="GreetMeSound" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

5.9.1. MugShot

Synopsis: Face photo

Data type: URL

Cardinality: 0-1

5.9.2. WebSite

Synopsis: Web site of the Principal

Data type: URI

Cardinality: 0-1

5.9.3. NamePronounced

Synopsis: User’s common name pronounced (usually by the user)

Data type: URL

Cardinality: 0-1

5.9.4. GreetSound

Synopsis: Greeting sound, e.g., user saying "Hello" to someone else

Data type: URL

Cardinality: 0-1
5.9.5. GreetMeSound

Synopsis
Sound for user interface to greet the user

Data type
URL

Cardinality
0-1

5.10. Demographics

Synopsis
Base level demographics used by ID-PP

Cardinality
0-1

XML schema:

<xs:element name="Demographics" type="DemographicsType"/>
<xs:complexType name="DemographicsType">
  <xs:sequence>
    <xs:element ref="DisplayLanguage" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Language" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Birthday" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Age" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="TimeZone" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="common Attributes"/>
</xs:complexType>

5.10.1. DisplayLanguage

Synopsis
The language the Principal prefers for displayed user interfaces

Data type
ISO Language code

Cardinality
0-1

5.10.2. Language

Synopsis
Language the Principal is able to understand

Data type
ISO Language code

Cardinality
0-n
5.10.3. Birthday

Synopsis
Birthday without year

Data type
gMonthDay

Cardinality
0-1

5.10.4. Age

Synopsis
Age of the Principal in years

Data type
number

Cardinality
0-1

5.10.5. TimeZone

Synopsis
Time zone of the Principal

Data type
ces

Cardinality
0-1

Syntax of time zone is plus or minus sign followed by two digit hour, a colon, and a two digit minute expressing the offset from UTC.

5.11. SignKey

Synopsis
Principal’s public key or certificate for signing

Data type
pp:KeyInfoType

Cardinality
0-1

5.12. EncryptKey

Synopsis
Principal’s public key or certificate for encryption

Data type
pp:KeyInfoType

Cardinality
0-1
5.13. EmergencyContact

Synopsis
Next of kin or other person to contact if Principal has medical emergency

Data type
ces

Cardinality
0-1

5.14. LEmergencyContact

Synopsis
Localized EmergencyContact

Data type
ces

Cardinality
0-n
6. XML schema for ID-SIS-PP

The formal XML schema for the ID Personal Profile follows:

```xml
<!-- 2003-11-02-->
  elementFormDefault="qualified">
  <xs:annotation>
    <xs:documentation>Title: Liberty ID-WSF-SIS Personal Profile Services Schema</xs:documentation>
    <xs:documentation>The source code in this XSD file was excerpted verbatim from:
    Liberty Liberty ID-SIS Personal Profile Service Specification
    Version 1.2
    12th November 2003
    Copyright (c) 2003 Liberty Alliance participants, see
    https://www.projectliberty.org/specs/idwsf_copyrights.html
  </xs:annotation>
  <xs:include schemaLocation="liberty-idwsf-dst-v1.0.xsd"/>
  <xs:include schemaLocation="liberty-idwsf-dst-dt-v1.0.xsd"/>
  <xs:complexType name="KeyInfoType" mixed="true">
    <xs:complexContent mixed="true">
      <xs:extension base="ds:KeyInfoType">
        <xs:attribute ref="modificationTime"/>
        <xs:attribute ref="ACC"/>
        <xs:attribute ref="ACCTime"/>
        <xs:attribute ref="modifier"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
  <xs:simpleType name="SelectType">
    <xs:restriction base="xs:string"/>
  </xs:simpleType>
  <xs:element name="PP" type="PPType"/>
  <xs:complexType name="PPType">
    <xs:sequence>
      <xs:element ref="InformalName" minOccurs="0"/>
      <xs:element ref="LInformalName" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="CommonName" minOccurs="0"/>
      <xs:element ref="LegalIdentity" minOccurs="0"/>
      <xs:element ref="EmploymentIdentity" minOccurs="0"/>
      <xs:element ref="AddressCard" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="MsgContact" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="Facade" minOccurs="0"/>
      <xs:element ref="Demographics" minOccurs="0"/>
      <xs:element ref="SignKey" minOccurs="0"/>
      <xs:element ref="EncryptKey" minOccurs="0"/>
      <xs:element ref="EmergencyContact" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="LEmergencyContact" minOccurs="0" maxOccurs="unbounded"/>
      <xs:elementGroup ref="commonAttributes"/>
      <xs:complexType>
        <xs:element name="InformalName" type="DSTString"/>
        <xs:element name="LInformalName" type="DSTLocalizedString"/>
        <xs:element name="CommonName" type="CommonNameType"/>
        <xs:complexType name="CommonNameType">
          <xs:sequence>
            <xs:element ref="CN" minOccurs="0"/>
            <xs:element ref="LCN" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element ref="AltCN" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element ref="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element ref="AnalyzedName" minOccurs="0"/>
          </xs:sequence>
        </xs:complexType>
      </xs:elementGroup>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
```
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
</xs:complexType>
<xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<xs:element name="CN" type="DSTString"/>
<xs:element name="LCN" type="DSTLocalizedString"/>
<xs:element name="AltCN" type="DSTString"/>
<xs:element name="LAltCN" type="DSTLocalizedString"/>
<xs:element name="AnalyzedName" type="AnalyzedNameType"/>
<xs:complexType name="AnalyzedNameType">
<xs:sequence>
<xs:element ref="PersonalTitle" minOccurs="0"/>
<xs:element ref="LPersonalTitle" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="SN" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="LSN" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="MN" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="LMN" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
<xs:attribute name="nameScheme" type="xs:anyURI" use="optional"/>
<xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<xs:element name="PersonalTitle" type="DSTString"/>
<xs:element name="LPersonalTitle" type="DSTLocalizedString"/>
<xs:element name="FN" type="DSTString"/>
<xs:element name="LFN" type="DSTLocalizedString"/>
<xs:element name="SN" type="DSTString"/>
<xs:element name="LSN" type="DSTLocalizedString"/>
<xs:element name="MN" type="DSTString"/>
<xs:element name="LMN" type="DSTLocalizedString"/>
<xs:element name="LegalIdentity" type="LegalIdentityType"/>
<xs:complexType name="LegalIdentityType">
<xs:sequence>
<xs:element ref="LegalName" minOccurs="0"/>
<xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="AnalyzedName" minOccurs="0"/>
<xs:element ref="VAT" minOccurs="0"/>
<xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="DOB" minOccurs="0"/>
<xs:element ref="Gender" minOccurs="0"/>
<xs:element ref="MaritalStatus" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
<xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<xs:element name="LegalName" type="DSTString"/>
<xs:element name="LLegalName" type="DSTLocalizedString"/>
<xs:element name="VAT" type="VATType"/>
<xs:complexType name="VATType">
<xs:sequence>
<xs:element ref="IDValue"/>
<xs:element ref="IDType" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
<xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<xs:element name="IDValue" type="DSTString"/>
<xs:element name="IDType" type="DSTURI"/>
<xs:element name="AltID" type="AltIDType"/>
<xs:complexType name="AltIDType">
<xs:sequence>
<xs:element ref="IDValue"/>
<xs:element ref="IDType" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
<xs:attributeGroup ref="commonAttributes"/>
<xs:complexType>
<xs:element name="DOB" type="DSTDate"/>
<xs:element name="Gender" type="DSTURI"/>
<xs:element name="MaritalStatus" type="DSTURI"/>
<xs:element name="EmploymentIdentity" type="EmploymentIdentityType"/>
<xs:complexType name="EmploymentIdentityType">
  <xs:sequence>
    <xs:element ref="JobTitle" minOccurs="0"/>
    <xs:element ref="LJobTitle" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="O" minOccurs="0"/>
    <xs:element ref="LO" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="AltO" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="AltLO" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<xs:element name="JobTitle" type="DSTString"/>
<xs:element name="LJobTitle" type="DSTLocalizedString"/>
<xs:element name="O" type="DSTString"/>
<xs:element name="LO" type="DSTLocalizedString"/>
<xs:element name="AltO" type="DSTString"/>
<xs:element name="AltLO" type="DSTLocalizedString"/>
<xs:element name="AddressCard" type="AddressCardType"/>
<xs:complexType name="AddressCardType">
  <xs:sequence>
    <xs:element ref="AddrType" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Address" minOccurs="0"/>
    <xs:element ref="Nick" minOccurs="0"/>
    <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LComment" minOccurs="0"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
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  <xs:sequence>
    <xs:element ref="PostalAddress" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LPostalAddress" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="PostalCode" minOccurs="0"/>
    <xs:element ref="L" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LL" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="St" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LSt" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="C" minOccurs="0"/>
    <xs:element ref="Nick" minOccurs="0"/>
    <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="LComment" minOccurs="0"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
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<xs:element name="PostalCode" type="DSTString"/>
<xs:element name="L" type="DSTString"/>
<xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded" />
<xs:element ref="LComment" minOccurs="0"/>
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<xs:element ref="MsgTechnology" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="MsgProvider" minOccurs="0"/>
<xs:element ref="MsgAccount" minOccurs="0"/>
<xs:element ref="MsgSubaccount" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
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<x:attributeGroup ref="commonAttributes"/>
</xs:complexType>
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<x:element name="MsgTechnology">
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<xs:complexContent>
<xs:extension base="DSTURI">
<xs:attribute name="msgLimit" type="xs:integer" use="optional"/>
</xs:extension>
</xs:complexContent>
</xs:complexType>
</x:element>
<x:element name="MsgProvider" type="DSTString"/>
<x:element name="MsgAccount" type="DSTString"/>
<x:element name="MsgSubaccount" type="DSTString"/>
<x:element name="Facade" type="FacadeType"/>
<x:complexType name="FacadeType">
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<xs:element ref="MugShot" minOccurs="0"/>
<xs:element ref="WebSite" minOccurs="0"/>
<xs:element ref="NamePronounced" minOccurs="0"/>
<xs:element ref="GreetSound" minOccurs="0"/>
<xs:element ref="GreetMeSound" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
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<x:attributeGroup ref="commonAttributes"/>
</xs:complexType>
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<x:element name="WebSite" type="DSTURI"/>
<x:element name="NamePronounced" type="DSTURI"/>
<x:element name="GreetSound" type="DSTURI"/>
<x:element name="GreetMeSound" type="DSTURI"/>
<x:element name="Demographics" type="DemographicsType"/>
<x:complexType name="DemographicsType">
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<xs:element ref="DisplayLanguage" minOccurs="0"/>
<xs:element ref="Language" minOccurs="0" maxOccurs="unbounded"/>
<xs:element ref="Birthday" minOccurs="0"/>
<xs:element ref="Age" minOccurs="0"/>
<xs:element ref="TimeZone" minOccurs="0"/>
<xs:element ref="Extension" minOccurs="0"/>
</xs:sequence>
<x:attributeGroup ref="commonAttributes"/>
</xs:complexType>
<x:element name="DisplayLanguage" type="DSTString"/>
<x:element name="Language" type="DSTString"/>
<x:element name="Birthday" type="DSTMonthDay"/>
<x:element name="Age" type="DSTInteger"/>
<x:element name="TimeZone" type="DSTInteger"/>
<x:element name="SignKey" type="KeyInfoType"/>
<x:element name="EncryptKey" type="KeyInfoType"/>
<x:element name="EmergencyContact" type="DSTString"/>
<x:element name="LEmergencyContact" type="DSTLocalizedString"/>
The abstract Web Services Description Language (WSDL) declaration for the ID Personal Profile follows. The declaration states what is derived from [LibertyDST], namely that ID-SIS-PP is characterized by Query and Modify operations cast to namespace of ID-SIS-PP.

```
<wsdl:definitions xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:liberty="urn:liberty:id-sis-pp:2003-08"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/">
  <targetNamespace>urn:liberty:id-sis-pp:2003-08" name="pp">
    <types>
      <xsd:schema
        namespace="urn:liberty:id-sis-pp:2003-08"
        schemaLocation="liberty-idsis-pp-v1.0.xsd"
       />
      <xsd:annotation>
        <xsd:documentation>Title: Liberty ID-SIS Personal Profile Services WSDL</xsd:documentation>
      </xsd:annotation>
    </xsd:schema>
  </types>

  <message name="Query">
    <part name="body" element="pp:Query"/>
  </message>

  <message name="QueryResponse">
    <part name="body" element="pp:QueryResponse"/>
  </message>

  <message name="Modify">
    <part name="body" element="pp:Modify"/>
  </message>

  <message name="ModifyResponse">
    <part name="body" element="pp:ModifyResponse"/>
  </message>

  <portType name="DataServicePort">
    <operation name="QueryOperation">
      <input message="pp:Query"/>
      <output message="pp:QueryResponse"/>
    </operation>
    <operation name="ModifyOperation">
      <input message="pp:Modify"/>
      <output message="pp:ModifyResponse"/>
    </operation>
  </portType>
</wsdl:definitions>
```
References

Normative


Informative


