



Liberty ID-SIS Personal Profile Service Specification

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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 a data-oriented identity web service and is characterized by the ability to query and update attribute data and incorporates mechanisms from other specifications 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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Contents

31		
32	1. Introduction	4
33	1.1. Notational Conventions	4
34	1.2. ID-SIS-PP Based on DST and WSF	4
35	1.3. Conformance	4
36	1.4. Namespaces	5
37	1.5. Extension and Namespace Reservation	5
38	2. Discovery and Queries	7
39	2.1. Discovery Option Keywords	7
40	2.2. Supported XPATH Expressions for Queries	10
41	2.3. Supported XPATH Expressions for Modifies	12
42	3. Processing Rules and Other Considerations	13
43	3.1. Repeated Queries Not Required to Report the Same Data	13
44	3.2. Support of Multiple Modifications Not Required	13
45	4. Qualifying Attributes with XML Attributes	14
46	4.1. ID-SIS-PP-Specific XML Attributes	14
47	4.2. Use of id XML Attribute	14
48	5. Containers and Attributes of the ID-SIS-PP	15
49	5.1. PP	15
50	5.2. InformalName	15
51	5.3. LInformalName	15
52	5.4. CommonName	15
53	5.5. LegalIdentity	18
54	5.6. EmploymentIdentity	21
55	5.7. AddressCard	22
56	5.8. MsgContact	25
57	5.9. Facade	27
58	5.10. Demographics	28
59	5.11. SignKey	29
60	5.12. EncryptKey	29
61	5.13. EmergencyContact	29
62	5.14. LEmergencyContact	29
63	6. XML schema for ID-SIS-PP	30
64	7. WSDL for ID-SIS-PP	34
65	References	35

1. Introduction

The ID-SIS Personal Profile (ID-SIS-PP) is a Liberty identity service that supports identity information regarding Principals themselves. This document normatively describes the ID-SIS-PP service. For rationale and guidance, please see the companion document Liberty ID-SIS Personal Profile Service Implementation Guidelines [[LibertyIDPPGuide](#)]. 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 the IETF [[RFC2119](#)]. 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 an ID-SIS-PP Service. An ID-SIS-PP Service MUST adhere to the [LibertyProtSchema](#) and [LibertyBindProf](#) specifications in its communications with the requestor and other Liberty-enabled entities. Additionally, an ID-SIS-PP 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 1. DST Support Level

Parameter	Value
ServiceType	urn:liberty:id-sis-pp:2005-05
Discovery Options	See Section 2.1
Data Schema	See Section 5
SelectType Element	See Section 2.2
Query Language	XPATH subset (see Section 2.2 and Section 2.3), MAY support full XPATH
Multiple Query	MAY
Multiple QueryItem	MUST
Support Modification	MAY
Multiple Modify	MAY
Multiple Modification	MAY
Extension in Query	MUST NOT
Extension in Modify	MUST NOT
Multiple elem uniqueness	Use id XML attribute for AddressCard and MsgContact elements. Use lang and script XML attributes for localizable elements.
Support changedSince and notChangedSince	MAY
Support includeCommonAttributes	MUST
Data Extension Supported	MAY, using Extension element

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 ID-SIS-PP specification, 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 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 "urn:liberty:id-sis-pp:2005-05."

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 the *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

Prefix	URI	Description
ds:	http://www.w3.org/2000/09/xmldsig	XML DSIG [RFC3275] (for <i>SignKey</i> type)
xml:	http://www.w3.org/TR/REC-xml	XML Definition [XML] (for <i>xml:lang</i>)
xs:	http://www.w3.org/2002/XMLSchema	XML Schema Definition [Schema1]

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.
3. by creating new containers,

- 125 4. by creating new discovery option keywords,
126 5. by extending the supported subset of XPATH expressions, and/or
127 6. by schema extension.

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

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

135 2. Discovery and Queries

136 2.1. Discovery Option Keywords

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

141 2.1.1. Data Availability Discovery Option Keywords

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

146 **Table 3. Data Availability Discovery Option Keywords**

Keyword	Equivalent XPATHs	Meaning
urn:liberty:id-sis-pp	/pp:PP	Has some ID-SIS-PP data
urn:liberty:id-sis-pp:domicile	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:domicile"]	Has some address card data corresponding to the domicile
urn:liberty:id-sis-pp:home	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:home"]	Has some address card data corresponding to the home address
urn:liberty:id-sis-pp:work	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:work"], /pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:work"]	Has some address card or messaging contact data corresponding to the office address
urn:liberty:id-sis-pp:personal	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:personal"]	Has some messaging contact data corresponding to personal contact
urn:liberty:id-sis-pp:mobile	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:mobile"]	Has some messaging contact data for mobile contact
urn:liberty:id-sis-pp:vacation	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:vacation"], /pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:vacation"]	Has some messaging contact or address data for vacation contact
urn:liberty:id-sis-pp:address	/pp:PP/pp:AddressCard	Has some address card data
urn:liberty:id-sis-pp:cn	/pp:PP/pp:CommonName	Has some common name data
urn:liberty:id-sis-pp:informalName	/pp:PP/pp:InformalName, /pp:PP/pp:LInformalName	Has informal name
urn:liberty:id-sis-pp:legal	/pp:PP/pp:LegalIdentity	Has some legal identity data
urn:liberty:id-sis-pp:employment	/pp:PP/pp:EmploymentIdentity	Has some employment identity data
urn:liberty:id-sis-pp:facade	/pp:PP/pp:Facade	Has some facade data
urn:liberty:id-sis-pp:keys	/pp:PP/pp:SignKey, /pp:PP/pp:EncryptKey	Has either or both keys
urn:liberty:id-sis-pp:demographics	/pp:PP/pp:Demographics	Has some demographics data
urn:liberty:id-sis-pp:emergency	/pp:PP/pp:EmergencyContact, /pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:emergency"]	Has some emergency contact data

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

152 2.1.2. Data Update Discovery Option Keywords

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

156 **Table 4. Data Update Discovery Option Keywords**

Keyword	Equivalent XPATHs	Meaning
urn:liberty:id-sis-pp:can	/pp:PP	Can store some ID-SIS-PP data
urn:liberty:id-sis-pp:can:domicile	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:domicile"]	Can store some address card data corresponding to the domicile
urn:liberty:id-sis-pp:can:home	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:home"]	Can store some address card data corresponding to the home address
urn:liberty:id-sis-pp:can:work	/pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:addrType:work"], /pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:work"]	Can store some address card or messaging contact data corresponding to the office address
urn:liberty:id-sis-pp:can:personal	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:personal"]	Can store some messaging contact data corresponding to personal contact
urn:liberty:id-sis-pp:can:mobile	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:mobile"]	Can store some messaging contact data for mobile contact
urn:liberty:id-sis-pp:can:vacation	/pp:PP/pp:MsgContact [pp:MsgType="urn:liberty:id-sis-pp:msgType:vacation"], /pp:PP/pp:AddressCard [pp:AddrType="urn:liberty:id-sis-pp:msgType:vacation"]	Can store some messaging contact or address data for vacation contact
urn:liberty:id-sis-pp:can:address	/pp:PP/pp:AddressCard	Can store some address card data
urn:liberty:id-sis-pp:can:cn	/pp:PP/pp:CommonName	Can store some common name data
urn:liberty:id-sis-pp:can:informalName	/pp:PP/pp:InformalName, /pp:PP/pp:LInformalName	Can store informal name
urn:liberty:id-sis-pp:can:legal	/pp:PP/pp:LegalIdentity	Can store some legal identity data
urn:liberty:id-sis-pp:can:employment	/pp:PP/pp:EmploymentIdentity	Can store some employment identity data
urn:liberty:id-sis-pp:can:facade	/pp:PP/pp:Facade	Can store some facade data
urn:liberty:id-sis-pp:can:keys	/pp:PP/pp:SignKey, /pp:PP/pp:EncryptKey	Can store either or both keys
urn:liberty:id-sis-pp:can:demographics	/pp:PP/pp:Demographics	Can store some demographics data
urn:liberty:id-sis-pp:can:emergency	/pp:PP/pp:EmergencyContact	Can store some emergency data

157 An implementation MUST NOT register a data update discovery option keyword unless some Modify request
 158 regarding the data referenced by the keyword can plausibly succeed. For example, if an AP is read only, it MUST

159 NOT register any data update discovery option keywords. Similarly, if the underlying database is incapable of storing
160 the data, then the keyword MUST NOT be advertised.

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

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

166 2.2. Supported XPATH Expressions for Queries

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

```
170 <xs:simpleType name="SelectType">  
171 <xs:restriction base="xs:string"/>  
172 </xs:simpleType>
```

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

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

```
180 /pp:PP  
181 /pp:PP/pp:InformalName  
182 /pp:PP/pp:LInformalName  
183 /pp:PP/pp:CommonName  
184 /pp:PP/pp:CommonName/pp:CN  
185 /pp:PP/pp:CommonName/pp:LCN  
186 /pp:PP/pp:CommonName/pp:AltCN  
187 /pp:PP/pp:CommonName/pp:LAltCN  
188 /pp:PP/pp:CommonName/pp:AnalyzedName  
189 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:PersonalTitle  
190 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:LPersonalTitle  
191 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:FN  
192 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:LFN  
193 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:SN  
194 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:LSN  
195 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:MN  
196 /pp:PP/pp:CommonName/pp:AnalyzedName/pp:LMN  
197 /pp:PP/pp:LegalIdentity  
198 /pp:PP/pp:LegalIdentity/pp:LegalName  
199 /pp:PP/pp:LegalIdentity/pp:LLegalName  
200 /pp:PP/pp:LegalIdentity/pp:AnalyzedName  
201 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:PersonalTitle  
202 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:LPersonalTitle  
203 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:FN  
204 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:LFN  
205 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:SN  
206 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:LSN  
207 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:MN  
208 /pp:PP/pp:LegalIdentity/pp:AnalyzedName/pp:LMN  
209 /pp:PP/pp:LegalIdentity/pp:VAT  
210 /pp:PP/pp:LegalIdentity/pp:VAT/pp:IDValue  
211 /pp:PP/pp:LegalIdentity/pp:VAT/pp:IDType  
212 /pp:PP/pp:LegalIdentity/pp:AltID
```

213 /pp:PP/pp:LegalIdentity/pp:AltID/pp:IDValue
214 /pp:PP/pp:LegalIdentity/pp:AltID/pp:IDType
215 /pp:PP/pp:LegalIdentity/pp:DOB
216 /pp:PP/pp:LegalIdentity/pp:Gender
217 /pp:PP/pp:LegalIdentity/pp:MaritalStatus
218 /pp:PP/pp:EmploymentIdentity
219 /pp:PP/pp:EmploymentIdentity/pp:JobTitle
220 /pp:PP/pp:EmploymentIdentity/pp:LJobTitle
221 /pp:PP/pp:EmploymentIdentity/pp:O
222 /pp:PP/pp:EmploymentIdentity/pp:LO
223 /pp:PP/pp:EmploymentIdentity/pp:AltO
224 /pp:PP/pp:EmploymentIdentity/pp:AltLO
225 /pp:PP/pp:AddressCard
226 /pp:PP/pp:AddressCard/pp:AddrType
227 /pp:PP/pp:AddressCard/pp:Address
228 /pp:PP/pp:AddressCard/pp:Address/pp:PostalAddress
229 /pp:PP/pp:AddressCard/pp:Address/pp:LPostalAddress
230 /pp:PP/pp:AddressCard/pp:Address/pp:PostalCode
231 /pp:PP/pp:AddressCard/pp:Address/pp:L
232 /pp:PP/pp:AddressCard/pp:Address/pp:LL
233 /pp:PP/pp:AddressCard/pp:Address/pp:St
234 /pp:PP/pp:AddressCard/pp:Address/pp:LSt
235 /pp:PP/pp:AddressCard/pp:Address/pp:C
236 /pp:PP/pp:AddressCard/pp:Nick
237 /pp:PP/pp:AddressCard/pp:LNick
238 /pp:PP/pp:AddressCard/pp:LComment
239 /pp:PP/pp:MsgContact
240 /pp:PP/pp:MsgContact/pp:Nick
241 /pp:PP/pp:MsgContact/pp:LNick
242 /pp:PP/pp:MsgContact/pp:LComment
243 /pp:PP/pp:MsgContact/pp:MsgType
244 /pp:PP/pp:MsgContact/pp:MsgMethod
245 /pp:PP/pp:MsgContact/pp:MsgTechnology
246 /pp:PP/pp:MsgContact/pp:MsgProvider
247 /pp:PP/pp:MsgContact/pp:MsgAccount
248 /pp:PP/pp:MsgContact/pp:MsgSubaccount
249 /pp:PP/pp:Facade
250 /pp:PP/pp:Facade/pp:MugShot
251 /pp:PP/pp:Facade/pp:WebSite
252 /pp:PP/pp:Facade/pp:NamePronounced
253 /pp:PP/pp:Facade/pp:GreetSound
254 /pp:PP/pp:Facade/pp:GreetMeSound
255 /pp:PP/pp:Demographics
256 /pp:PP/pp:Demographics/pp:DisplayLanguage
257 /pp:PP/pp:Demographics/pp:Language
258 /pp:PP/pp:Demographics/pp:Birthday
259 /pp:PP/pp:Demographics/pp:Age
260 /pp:PP/pp:Demographics/pp:TimeZone
261 /pp:PP/pp:SignKey
262 /pp:PP/pp:EncryptKey
263 /pp:PP/pp:EmergencyContact
264 /pp:PP/pp:LEmergencyContact

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

266 2. Selection of AddressCard by an exact match on the contents of a leaf element for the following leaf elements:

267 a. pp:AddrType

268 b. pp:Nick

269 c. pp:LNick

270 Only one of the tests needs to be supported in any one slashed path. Such bracketed expression may also appear
271 within (i.e., in the middle of) a slashed path.

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

273 a. `pp:Nick`

274 b. `pp:LNick`

275 c. `pp:MsgTechnology`

276 d. `pp:MsgMethod`

277 e. `pp:MsgType`

278 `Nick` and `LNick` need only be testable in isolation. `MsgTechnology`, `MsgMethod`, and `MsgType` can be tested
279 in isolation or simultaneously combined with an AND operator. Other operators do not need to be supported.
280 Such bracketed expression may also appear within a slashed path.

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

283 5. Selection of `/pp:PP/pp:LegalIdentity/pp:AltID` by an exact match against the `pp:IDType` element's
284 contents

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

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

291 2.3. Supported XPATH Expressions for Modifies

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

293 `/pp:PP`
294 `/pp:PP/pp:InformalName`
295 `/pp:PP/pp:LInformalName`
296 `/pp:PP/pp:CommonName`
297 `/pp:PP/pp:LegalIdentity`
298 `/pp:PP/pp:EmploymentIdentity`
299 `/pp:PP/pp:AddressCard`
300 `/pp:PP/pp:MsgContact`
301 `/pp:PP/pp:Facade`
302 `/pp:PP/pp:Demographics`
303 `/pp:PP/pp:SignKey`
304 `/pp:PP/pp:EncryptKey`
305 `/pp:PP/pp:EmergencyContact`
306 `/pp:PP/pp:LEmergencyContact`

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

309 An implementation MAY support full XPATH for modifies. In such cases the implementation MAY restrict the set of
310 slashed paths to the list above. If an implementation supports full XPATH for querying, then it MUST also support
311 full XPATH for modifies.

312 **3. Processing Rules and Other Considerations**

313 **3.1. Repeated Queries Not Required to Report the Same Data**

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

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

323 **3.2. Support of Multiple Modifications Not Required**

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

329 Implementations SHOULD support multiple `Modification` elements when feasible. If an imple-
330 mentation supports multiple `Modification` elements it MAY register the discovery option keyword
331 `urn:liberty:dst:multipleModification`.

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

334 Support for Multiple `Modify` and `Query` elements is not required.

335 4. Qualifying Attributes with XML Attributes

336 4.1. ID-SIS-PP-Specific XML Attributes

337 4.1.1. nameScheme

338 Synopsis Scheme for analyzing a name into components

339 Data type anyURI

340 Example

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

```
343 urn:liberty:id-sis-pp:nameScheme:firstlast  
344 urn:liberty:id-sis-pp:nameScheme:firstmiddlelast
```

345 Additional enumerators can be defined as specified in [\[LibertyReg\]](#).

346 4.2. Use of id XML Attribute

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

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

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

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

360 `Modifies` and out-of-band updates that do not create an element, but merely modify its contents, SHOULD not alter
361 the id XML attribute. With the exceptions of `AddressCard` or `MsgContact` containers, once an id XML attribute
362 has been provisioned for an element, whether via `Modify` or by out-of-band update, it MUST remain unaltered if it is
363 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:

```
369 <xs:element name="PP" type="PPType" />
370 <xs:complexType name="PPType">
371   <xs:sequence>
372     <xs:element ref="InformalName" minOccurs="0" />
373     <xs:element ref="LInformalName" minOccurs="0" maxOccurs="unbounded" />
374     <xs:element ref="CommonName" minOccurs="0" />
375     <xs:element ref="LegalIdentity" minOccurs="0" />
376     <xs:element ref="EmploymentIdentity" minOccurs="0" />
377     <xs:element ref="AddressCard" minOccurs="0" maxOccurs="unbounded" />
378     <xs:element ref="MsgContact" minOccurs="0" maxOccurs="unbounded" />
379     <xs:element ref="Facade" minOccurs="0" />
380     <xs:element ref="Demographics" minOccurs="0" />
381     <xs:element ref="SignKey" minOccurs="0" />
382     <xs:element ref="EncryptKey" minOccurs="0" />
383     <xs:element ref="EmergencyContact" minOccurs="0" />
384     <xs:element ref="LEmergencyContact" minOccurs="0" maxOccurs="unbounded" />
385     <xs:element ref="Extension" minOccurs="0" />
386   </xs:sequence>
387   <xs:attributeGroup ref="commonAttributes" />
388 </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

401 **XML schema:**

```
402 <xs:element name="CommonName" type="CommonNameType"/>
403 <xs:complexType name="CommonNameType">
404   <xs:sequence>
405     <xs:element ref="CN" minOccurs="0"/>
406     <xs:element ref="LCN" minOccurs="0" maxOccurs="unbounded"/>
407     <xs:element ref="AltCN" minOccurs="0" maxOccurs="unbounded"/>
408     <xs:element ref="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
409     <xs:element ref="AnalyzedName" minOccurs="0"/>
410     <xs:element ref="Extension" minOccurs="0"/>
411   </xs:sequence>
412   <xs:attributeGroup ref="commonAttributes"/>
413 </xs:complexType>
```

414 **5.4.1. CN**

415 Synopsis	Everyday name in the Latin writing system
416 Data type	cis
417 Cardinality	0-1

418 **5.4.2. LCN**

419 Synopsis	Everyday name in a local writing system
420 Data type	cis
421 Cardinality	0-n

422 **5.4.3. AltCN**

423 Synopsis	Additional everyday names in the Latin writing system
424 Data type	cis
425 Cardinality	0-n

426 **5.4.4. LAltCN**

427 Synopsis	An additional everyday name in a local writing system
428 Data type	cis
429 Cardinality	0-n

430 **5.4.5. AnalyzedName**

431 Synopsis	Name analyzed (decomposed) into its components
432 Cardinality	0-1
433 XML-attributes	nameScheme

434 **XML schema:**

```
435 <xs:element name="AnalyzedName" type="AnalyzedNameType" />
436 <xs:complexType name="AnalyzedNameType">
437   <xs:sequence>
438     <xs:element ref="PersonalTitle" minOccurs="0" />
439     <xs:element ref="LPersonalTitle" minOccurs="0" maxOccurs="unbounded" />
440     <xs:element ref="FN" minOccurs="0" />
441     <xs:element ref="LFN" minOccurs="0" maxOccurs="unbounded" />
442     <xs:element ref="SN" minOccurs="0" />
443     <xs:element ref="LSN" minOccurs="0" maxOccurs="unbounded" />
444     <xs:element ref="MN" minOccurs="0" />
445     <xs:element ref="LMN" minOccurs="0" maxOccurs="unbounded" />
446     <xs:element ref="Extension" minOccurs="0" />
447   </xs:sequence>
448   <xs:attribute name="nameScheme" type="xs:anyURI" use="optional" />
449   <xs:attributeGroup ref="commonAttributes" />
450 </xs:complexType>
```

451 **5.4.5.1. PersonalTitle**

452 Synopsis	Personal or honorary title
453 Data type	cis
454 Cardinality	0-1

455 **5.4.5.2. LPersonalTitle**

456 Synopsis	Personal title in a local writing system
457 Data type	cis
458 Cardinality	0-n

459 **5.4.5.3. FN**

460 Synopsis	First name, Given name
461 Data type	cis
462 Cardinality	0-1

463 **5.4.5.4. LFN**

464 Synopsis	First name in a local writing system
465 Data type	cis
466 Cardinality	0-n

467 **5.4.5.5. SN**

468 Synopsis	Surname (familyname)
469 Data type	cis
470 Cardinality	0-1

471 **5.4.5.6. LSN**

472	Synopsis	Surname in a local writing system
473	Data type	cis
474	Cardinality	0-n

475 **5.4.5.7. MN**

476	Synopsis	Middle name oinitialal
477	Data type	cis
478	Cardinality	0-1

479 **5.4.5.8. LMN**

480	Synopsis	Middle name or initial in a local writing system
481	Data type	cis
482	Cardinality	0-n

483 **5.5. LegalIdentity**

484	Synopsis	Official legal identification of the Principal
485	Cardinality	0-1

486 **XML schema:**

```
487 <xs:element name="LegalIdentity" type="LegalIdentityType" />
488 <xs:complexType name="LegalIdentityType">
489   <xs:sequence>
490     <xs:element ref="LegalName" minOccurs="0" />
491     <xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded" />
492     <xs:element ref="AnalyzedName" minOccurs="0" />
493     <xs:element ref="VAT" minOccurs="0" />
494     <xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded" />
495     <xs:element ref="DOB" minOccurs="0" />
496     <xs:element ref="Gender" minOccurs="0" />
497     <xs:element ref="MaritalStatus" minOccurs="0" />
498     <xs:element ref="Extension" minOccurs="0" />
499   </xs:sequence>
500   <xs:attributeGroup ref="commonAttributes" />
501 </xs:complexType>
```

502 **5.5.1. LegalName**

503	Synopsis	Full legal name in the Latin writing system
504	Data type	cis
505	Cardinality	0-1

506 **5.5.2. LLegalName**

507	Synopsis	Full legal name in a local writing system
-----	----------	---

508 Data type cis
 509 Cardinality 0-n

510 5.5.3. VAT

511 Synopsis Fiscal identification number
 512 Cardinality 0-1

513 Processing rules

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

517 XML schema:

```
518 <xs:element name="VAT" type="VATType" />
519 <xs:complexType name="VATType">
520   <xs:sequence>
521     <xs:element ref="IDValue" />
522     <xs:element ref="IDType" minOccurs="0" />
523     <xs:element ref="Extension" minOccurs="0" />
524   </xs:sequence>
525   <xs:attributeGroup ref="commonAttributes" />
526 </xs:complexType>
```

527 5.5.3.1. IDValue

528 Synopsis Identification number value
 529 Data type ces
 530 Cardinality 0-1

531 5.5.3.2. IDType

532 Synopsis Type of identification number stored in a VAT or AltID attribute
 533 Data type URI enumeration
 534 Cardinality 0-1

535 Enumerators are be defined as specified in [[LibertyReg](#)]. The current enumerators are:

```
536 urn:liberty:id-sis-pp:IDType:ukvat
537 urn:liberty:id-sis-pp:IDType:itcif
538 urn:liberty:id-sis-pp:IDType:ptnif
539 urn:liberty:id-sis-pp:IDType:esnif
540 urn:liberty:id-sis-pp:IDType:fialv
541 urn:liberty:id-sis-pp:IDType:rfid
```

542 5.5.4. AltID

543 Synopsis Other identification number(s)
 544 Cardinality 0-n

545 Processing rules

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

549 XML schema:

```
550 <xs:element name="AltID" type="AltIDType" />
551 <xs:complexType name="AltIDType">
552   <xs:sequence>
553     <xs:element ref="IDValue" />
554     <xs:element ref="IDType" minOccurs="0" />
555     <xs:element ref="Extension" minOccurs="0" />
556   </xs:sequence>
557   <xs:attributeGroup ref="commonAttributes" />
558 </xs:complexType>
```

559 See VAT [Section 5.5.3](#) for descriptions of IDValue and IDType.

560 5.5.5. DOB

561 Synopsis	Date of Birth
562 Data type	date
563 Cardinality	0-1

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

568 5.5.6. Gender

569 Synopsis	Gender of the Principal
570 Data type	URI enumeration
571 Cardinality	0-1

572 The following enumerators MUST be supported:

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

575 5.5.7. MaritalStatus

576 Synopsis	Marital status, such as single or married
577 Data type	URI enumeration
578 Cardinality	0-1

579 The following enumerators MUST be supported:

```
580 urn:liberty:id-sis-pp:maritalstatus:single
581 urn:liberty:id-sis-pp:maritalstatus:married
582 urn:liberty:id-sis-pp:maritalstatus:commonlawmarriage
583 urn:liberty:id-sis-pp:maritalstatus:separated
584 urn:liberty:id-sis-pp:maritalstatus:divorced
585 urn:liberty:id-sis-pp:maritalstatus:widowed
586 urn:liberty:id-sis-pp:maritalstatus:dead
587 urn:liberty:id-sis-pp:maritalstatus:notapplicable
```

588 The list of enumerators MAY be extended as described in [\[LibertyReg\]](#).

589 5.6. EmploymentIdentity

590 Synopsis Minimal Employer and employment details

591 Cardinality 0-1

592 XML schema:

```
593 <xs:element name="EmploymentIdentity" type="EmploymentIdentityType" />
594 <xs:complexType name="EmploymentIdentityType">
595   <xs:sequence>
596     <xs:element ref="JobTitle" minOccurs="0" />
597     <xs:element ref="LJobTitle" minOccurs="0" maxOccurs="unbounded" />
598     <xs:element ref="O" minOccurs="0" />
599     <xs:element ref="LO" minOccurs="0" />
600     <xs:element ref="AltO" minOccurs="0" maxOccurs="unbounded" />
601     <xs:element ref="AltLO" minOccurs="0" maxOccurs="unbounded" />
602     <xs:element ref="Extension" minOccurs="0" />
603   </xs:sequence>
604   <xs:attributeGroup ref="commonAttributes" />
605 </xs:complexType>
```

606 5.6.1. JobTitle

607 Synopsis Job title in Latin script

608 Data type cis

609 Cardinality 0-1

610 5.6.2. LJobTitle

611 Synopsis Job title in a local writing system

612 Data type cis

613 Cardinality 0-n

614 5.6.3. O

615 Synopsis Informal name of an organization

616 Data type cis

617 Cardinality 0-1

618 **5.6.4. LO**

619 Synopsis Localized version of organization's informal name

620 Data type cis

621 Cardinality 0-1

622 **5.6.5. AltO**

623 Synopsis Additional informal names of an organization

624 Data type cis

625 Cardinality 0-n

626 **5.6.6. AltLO**

627 Synopsis Localized version of an organization's informal name

628 Data type cis

629 Cardinality 0-n

630 **5.7. AddressCard**

631 Synopsis An address card data structure for ID-SIS-PP

632 Cardinality 0-n

633 **XML schema:**

```
634 <xs:element name="AddressCard" type="AddressCardType"/>
635 <xs:complexType name="AddressCardType">
636   <xs:sequence>
637     <xs:element ref="AddrType" minOccurs="0" maxOccurs="unbounded"/>
638     <xs:element ref="Address" minOccurs="0"/>
639     <xs:element ref="Nick" minOccurs="0"/>
640     <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded"/>
641     <xs:element ref="LComment" minOccurs="0"/>
642     <xs:element ref="Extension" minOccurs="0"/>
643   </xs:sequence>
644   <xs:attributeGroup ref="commonAttributes"/>
645 </xs:complexType>
```

646 **5.7.1. AddrType**

647 Synopsis Defines the role of an AddressCard

648 Data type URI enumeration

649 Cardinality 0-n

650 Following enumerators MUST be supported:

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

656 Additional enumerators MAY be defined as described in [[LibertyReg](#)].

657 5.7.2. Address

658 Synopsis Commonly used group of postal address fields

659 Cardinality 0-1

660 Processing rules

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

663 XML schema:

```
664 <xs:element name="Address" type="AddressType" />
665 <xs:complexType name="AddressType">
666   <xs:sequence>
667     <xs:element ref="PostalAddress" minOccurs="0" />
668     <xs:element ref="LPostalAddress" minOccurs="0" maxOccurs="unbounded" />
669     <xs:element ref="PostalCode" minOccurs="0" />
670     <xs:element ref="L" minOccurs="0" />
671     <xs:element ref="LL" minOccurs="0" maxOccurs="unbounded" />
672     <xs:element ref="St" minOccurs="0" />
673     <xs:element ref="LSt" minOccurs="0" maxOccurs="unbounded" />
674     <xs:element ref="C" minOccurs="0" />
675     <xs:element ref="Extension" minOccurs="0" />
676   </xs:sequence>
677   <xs:attributeGroup ref="commonAttributes" />
678 </xs:complexType>
```

679 5.7.2.1. PostalAddress

680 Synopsis Detailed local address, e.g., street or block address with house
681 number, etc.

682 Data type cis

683 Cardinality 0-1

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

685 5.7.2.2. LPostalAddress

686 Synopsis Street address in a local writing system

687 Data type cis

688 Cardinality 0-n

689 5.7.2.3. PostalCode

690	Synopsis	Postal code, such as zip code
691	Data type	cis
692	Cardinality	0-1
693	5.7.2.4. L	
694	Synopsis	Locality or city
695	Data type	cis
696	Cardinality	0-1
697	5.7.2.5. LL	
698	Synopsis	Locality or city in a local writing system
699	Data type	cis
700	Cardinality	0-n
701	5.7.2.6. St	
702	Synopsis	State or province, if applicable
703	Data type	cis
704	Cardinality	0-1
705	5.7.2.7. LSt	
706	Synopsis	State or province in a local writing system
707	Data type	cis
708	Cardinality	0-n
709	5.7.2.8. C	
710	Synopsis	Country
711	Data type	ISO 3166 country code
712	Cardinality	0-1
713	5.7.3. Nick	
714	Synopsis	Nickname for identifying an item in a user interface
715	Data type	cis
716	Cardinality	0-1
717	Nickname SHOULD NOT be printed in address label. The nickname can not and SHOULD NOT be used as machine-	
718	readable identification of any data item. Nick names are not unique.	
719	5.7.4. LNick	

720	Synopsis	Local script version of nickname
721	Data type	cis
722	Cardinality	0-n

723 **5.7.5. LComment**

724	Synopsis	Private comment about a data object
725	Data type	cis
726	Cardinality	0-1

727 **5.8. MsgContact**

728	Synopsis	Generic phone, email, or instant messaging contact information
729	Cardinality	0-n

730 **XML schema:**

```
731 <xs:element name="MsgContact" type="MsgContactType" />
732 <xs:complexType name="MsgContactType">
733   <xs:sequence>
734     <xs:element ref="Nick" minOccurs="0" />
735     <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded" />
736     <xs:element ref="LComment" minOccurs="0" />
737     <xs:element ref="MsgType" minOccurs="0" maxOccurs="unbounded" />
738     <xs:element ref="MsgMethod" minOccurs="0" maxOccurs="unbounded" />
739     <xs:element ref="MsgTechnology" minOccurs="0" maxOccurs="unbounded" />
740     <xs:element ref="MsgProvider" minOccurs="0" />
741     <xs:element ref="MsgAccount" minOccurs="0" />
742     <xs:element ref="MsgSubaccount" minOccurs="0" />
743     <xs:element ref="Extension" minOccurs="0" />
744   </xs:sequence>
745   <xs:attributeGroup ref="commonAttributes" />
746 </xs:complexType>
```

747 **5.8.1. MsgType**

748	Synopsis	Usage role of the messaging contact
749	Data type	URI enumeration
750	Cardinality	0-n

751 Following enumerators **MUST** be supported:

```
752 urn:liberty:id-sis-pp:msgType:personal
753 urn:liberty:id-sis-pp:msgType:work
754 urn:liberty:id-sis-pp:msgType:mobile
755 urn:liberty:id-sis-pp:msgType:vacation
756 urn:liberty:id-sis-pp:msgType:emergency
```

757 Additional enumerators **MAY** be defined as described in [[LibertyReg](#)].

758 **5.8.2. MsgMethod**

759 Synopsis Messaging method associated with this contact or device

760 Data type URI

761 Cardinality 0-n

762 Following enumerators MUST be supported:

763 urn:liberty:id-sis-pp:msgMethod:voice
764 urn:liberty:id-sis-pp:msgMethod:fax
765 urn:liberty:id-sis-pp:msgMethod:email
766 urn:liberty:id-sis-pp:msgMethod:pager
767 urn:liberty:id-sis-pp:msgMethod:im

768 Additional enumerators MAY be defined as described in [[LibertyReg](#)].

769 5.8.3. MsgTechnology

770 Synopsis Messaging technology or protocol associated with this contact or
771 device

772 Data type URI enumeration

773 Cardinality 0-n

774 XML-attributes msgLimit

775 Following enumerators MUST be supported:

776 urn:liberty:id-sis-pp:msgTechnology:pots
777 urn:liberty:id-sis-pp:msgTechnology:voip
778 urn:liberty:id-sis-pp:msgTechnology:fax
779 urn:liberty:id-sis-pp:msgTechnology:email
780 urn:liberty:id-sis-pp:msgTechnology:sms
781 urn:liberty:id-sis-pp:msgTechnology:mms
782 urn:liberty:id-sis-pp:msgTechnology:pager
783 urn:liberty:id-sis-pp:msgTechnology:aol
784 urn:liberty:id-sis-pp:msgTechnology:icq
785 urn:liberty:id-sis-pp:msgTechnology:yahoo
786 urn:liberty:id-sis-pp:msgTechnology:msn
787 urn:liberty:id-sis-pp:msgTechnology:mim
788 urn:liberty:id-sis-pp:msgTechnology:irc

789 Additional enumerators MAY be defined as described in [[LibertyReg](#)].

790 5.8.4. MsgProvider

791 Synopsis Service provider or domain that provides messaging services

792 Data type ces

793 Cardinality 0-1

794 5.8.5. MsgAccount

795 Synopsis Account or address information within the messaging provider

796 Data type ces

797 Cardinality 0-1

798 **5.8.6. MsgSubaccount**

799 Synopsis	Subaccount within a messaging account, such as voice mail box
800	under phone number
801 Data type	ces
802 Cardinality	0-1

803 **5.9. Facade**

804 Synopsis	Principal's look and sound facade
805 Cardinality	0-1

806 **XML schema:**

```
807 <xs:element name="Facade" type="FacadeType"/>
808 <xs:complexType name="FacadeType">
809   <xs:sequence>
810     <xs:element ref="MugShot" minOccurs="0"/>
811     <xs:element ref="WebSite" minOccurs="0"/>
812     <xs:element ref="NamePronounced" minOccurs="0"/>
813     <xs:element ref="GreetSound" minOccurs="0"/>
814     <xs:element ref="GreetMeSound" minOccurs="0"/>
815     <xs:element ref="Extension" minOccurs="0"/>
816   </xs:sequence>
817   <xs:attributeGroup ref="commonAttributes"/>
818 </xs:complexType>
```

819 **5.9.1. MugShot**

820 Synopsis	Face photo
821 Data type	URL
822 Cardinality	0-1

823 **5.9.2. WebSite**

824 Synopsis	Web site of the Principal
825 Data type	URI
826 Cardinality	0-1

827 **5.9.3. NamePronounced**

828 Synopsis	User's common name pronounced (usually by the user)
829 Data type	URL
830 Cardinality	0-1

831 **5.9.4. GreetSound**

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

833	Data type	URL
834	Cardinality	0-1

835 **5.9.5. GreetMeSound**

836	Synopsis	Sound for user interface to greet the user
837	Data type	URL
838	Cardinality	0-1

839 **5.10. Demographics**

840	Synopsis	Base level demographics used by ID-PP
841	Cardinality	0-1

842 **XML schema:**

```
843 <xs:element name="Demographics" type="DemographicsType"/>
844 <xs:complexType name="DemographicsType">
845   <xs:sequence>
846     <xs:element ref="DisplayLanguage" minOccurs="0"/>
847     <xs:element ref="Language" minOccurs="0" maxOccurs="unbounded"/>
848     <xs:element ref="Birthday" minOccurs="0"/>
849     <xs:element ref="Age" minOccurs="0"/>
850     <xs:element ref="TimeZone" minOccurs="0"/>
851     <xs:element ref="Extension" minOccurs="0"/>
852   </xs:sequence>
853   <xs:attributeGroup ref="commonAttributes"/>
854 </xs:complexType>
```

855 **5.10.1. DisplayLanguage**

856	Synopsis	The language the Principal prefers for displayed user interfaces
857	Data type	ISO Language code
858	Cardinality	0-1

859 **5.10.2. Language**

860	Synopsis	Language the Principal is able to understand
861	Data type	ISO Language code
862	Cardinality	0-n

863 **5.10.3. Birthday**

864	Synopsis	Birthday without year
865	Data type	gMonthDay
866	Cardinality	0-1

867 **5.10.4. Age**

868	Synopsis	Age of the Principal in years
869	Data type	number
870	Cardinality	0-1

871 **5.10.5. TimeZone**

872	Synopsis	Time zone of the Principal
873	Data type	ces
874	Cardinality	0-1

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

877 **5.11. SignKey**

878	Synopsis	Principal's public key or certificate for signing
879	Data type	pp:KeyInfoType
880	Cardinality	0-1

881 **5.12. EncryptKey**

882	Synopsis	Principal's public key or certificate for encryption
883	Data type	pp:KeyInfoType
884	Cardinality	0-1

885 **5.13. EmergencyContact**

886	Synopsis	Next of kin or other person to contact if Principal has medical 887 emergency
888	Data type	ces
889	Cardinality	0-1

890 **5.14. LEmergencyContact**

891	Synopsis	Localized EmergencyContact
892	Data type	ces
893	Cardinality	0-n

6. XML schema for ID-SIS-PP

The formal XML schema for the ID Personal Profile follows:

```
896 <?xml version="1.0" encoding="UTF-8"?>
897 <xs:schema
898     targetNamespace="urn:liberty:id-sis-pp:2005-05"
899     xmlns="urn:liberty:id-sis-pp:2005-05"
900     xmlns:xs="http://www.w3.org/2001/XMLSchema"
901     xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
902     elementFormDefault="qualified" version="1.1">
903   <xs:import
904     namespace="http://www.w3.org/2000/09/xmldsig#"
905     schemaLocation="http://www.w3.org/TR/2002/REC-xmldsig-core-20020212/xmldsig
906 -core-schema.xsd"/>
907   <xs:include schemaLocation="liberty-idwsf-dst-v1.1.xsd"/>
908   <xs:include schemaLocation="liberty-idwsf-dst-dt-v1.1.xsd"/>
909   <xs:complexType name="KeyInfoType" mixed="true">
910     <xs:complexContent mixed="true">
911       <xs:extension base="ds:KeyInfoType">
912         <xs:attribute ref="modificationTime"/>
913         <xs:attribute ref="ACC"/>
914         <xs:attribute ref="ACCTime"/>
915         <xs:attribute ref="modifier"/>
916       </xs:extension>
917     </xs:complexContent>
918   </xs:complexType>
919   <xs:simpleType name="SelectType">
920     <xs:restriction base="xs:string"/>
921   </xs:simpleType>
922   <xs:element name="PP" type="PPType"/>
923   <xs:complexType name="PPType">
924     <xs:sequence>
925       <xs:element ref="InformalName" minOccurs="0"/>
926       <xs:element ref="LInformalName" minOccurs="0" maxOccurs="unbounded"/>
927       <xs:element ref="CommonName" minOccurs="0"/>
928       <xs:element ref="LegalIdentity" minOccurs="0"/>
929       <xs:element ref="EmploymentIdentity" minOccurs="0"/>
930       <xs:element ref="AddressCard" minOccurs="0" maxOccurs="unbounded"/>
931       <xs:element ref="MsgContact" minOccurs="0" maxOccurs="unbounded"/>
932       <xs:element ref="Facade" minOccurs="0"/>
933       <xs:element ref="Demographics" minOccurs="0"/>
934       <xs:element ref="SignKey" minOccurs="0"/>
935       <xs:element ref="EncryptKey" minOccurs="0"/>
936       <xs:element ref="EmergencyContact" minOccurs="0"/>
937       <xs:element ref="LEmergencyContact" minOccurs="0" maxOccurs="unbounded"/>
938       <xs:element ref="Extension" minOccurs="0"/>
939     </xs:sequence>
940     <xs:attributeGroup ref="commonAttributes"/>
941   </xs:complexType>
942   <xs:element name="InformalName" type="DSTString"/>
943   <xs:element name="LInformalName" type="DSTLocalizedString"/>
944   <xs:element name="CommonName" type="CommonNameType"/>
945   <xs:complexType name="CommonNameType">
946     <xs:sequence>
947       <xs:element ref="CN" minOccurs="0"/>
948       <xs:element ref="LCN" minOccurs="0" maxOccurs="unbounded"/>
949       <xs:element ref="AltCN" minOccurs="0" maxOccurs="unbounded"/>
950       <xs:element ref="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
951       <xs:element ref="AnalyzedName" minOccurs="0"/>
952       <xs:element ref="Extension" minOccurs="0"/>
953     </xs:sequence>
954     <xs:attributeGroup ref="commonAttributes"/>
955   </xs:complexType>
956   <xs:element name="CN" type="DSTString"/>
957   <xs:element name="LCN" type="DSTLocalizedString"/>
958   <xs:element name="AltCN" type="DSTString"/>
```

```

959 <xs:element name="LAltCN" type="DSTLocalizedString"/>
960 <xs:element name="AnalyzedName" type="AnalyzedNameType"/>
961 <xs:complexType name="AnalyzedNameType">
962     <xs:sequence>
963         <xs:element ref="PersonalTitle" minOccurs="0"/>
964         <xs:element ref="LPersonalTitle" minOccurs="0" maxOccurs="unbounded"/>
965         <xs:element ref="FN" minOccurs="0"/>
966         <xs:element ref="LFN" minOccurs="0" maxOccurs="unbounded"/>
967         <xs:element ref="SN" minOccurs="0"/>
968         <xs:element ref="LSN" minOccurs="0" maxOccurs="unbounded"/>
969         <xs:element ref="MN" minOccurs="0"/>
970         <xs:element ref="LMN" minOccurs="0" maxOccurs="unbounded"/>
971         <xs:element ref="Extension" minOccurs="0"/>
972     </xs:sequence>
973     <xs:attribute name="nameScheme" type="xs:anyURI" use="optional"/>
974     <xs:attributeGroup ref="commonAttributes"/>
975 </xs:complexType>
976 <xs:element name="PersonalTitle" type="DSTString"/>
977 <xs:element name="LPersonalTitle" type="DSTLocalizedString"/>
978 <xs:element name="FN" type="DSTString"/>
979 <xs:element name="LFN" type="DSTLocalizedString"/>
980 <xs:element name="SN" type="DSTString"/>
981 <xs:element name="LSN" type="DSTLocalizedString"/>
982 <xs:element name="MN" type="DSTString"/>
983 <xs:element name="LMN" type="DSTLocalizedString"/>
984 <xs:element name="LegalIdentity" type="LegalIdentityType"/>
985 <xs:complexType name="LegalIdentityType">
986     <xs:sequence>
987         <xs:element ref="LegalName" minOccurs="0"/>
988         <xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded"/>
989         <xs:element ref="AnalyzedName" minOccurs="0"/>
990         <xs:element ref="VAT" minOccurs="0"/>
991         <xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded"/>
992         <xs:element ref="DOB" minOccurs="0"/>
993         <xs:element ref="Gender" minOccurs="0"/>
994         <xs:element ref="MaritalStatus" minOccurs="0"/>
995         <xs:element ref="Extension" minOccurs="0"/>
996     </xs:sequence>
997     <xs:attributeGroup ref="commonAttributes"/>
998 </xs:complexType>
999 <xs:element name="LegalName" type="DSTString"/>
1000 <xs:element name="LLegalName" type="DSTLocalizedString"/>
1001 <xs:element name="VAT" type="VATType"/>
1002 <xs:complexType name="VATType">
1003     <xs:sequence>
1004         <xs:element ref="IDValue"/>
1005         <xs:element ref="IDType" minOccurs="0"/>
1006         <xs:element ref="Extension" minOccurs="0"/>
1007     </xs:sequence>
1008     <xs:attributeGroup ref="commonAttributes"/>
1009 </xs:complexType>
1010 <xs:element name="IDValue" type="DSTString"/>
1011 <xs:element name="IDType" type="DSTURI"/>
1012 <xs:element name="AltID" type="AltIDType"/>
1013 <xs:complexType name="AltIDType">
1014     <xs:sequence>
1015         <xs:element ref="IDValue"/>
1016         <xs:element ref="IDType" minOccurs="0"/>
1017         <xs:element ref="Extension" minOccurs="0"/>
1018     </xs:sequence>
1019     <xs:attributeGroup ref="commonAttributes"/>
1020 </xs:complexType>
1021 <xs:element name="DOB" type="DSTDate"/>
1022 <xs:element name="Gender" type="DSTURI"/>
1023 <xs:element name="MaritalStatus" type="DSTURI"/>
1024 <xs:element name="EmploymentIdentity" type="EmploymentIdentityType"/>
1025 <xs:complexType name="EmploymentIdentityType">

```

```
1026     <xs:sequence>
1027         <xs:element ref="JobTitle" minOccurs="0" />
1028         <xs:element ref="LJobTitle" minOccurs="0" maxOccurs="unbounded" />
1029         <xs:element ref="O" minOccurs="0" />
1030         <xs:element ref="LO" minOccurs="0" />
1031         <xs:element ref="AltO" minOccurs="0" maxOccurs="unbounded" />
1032         <xs:element ref="AltLO" minOccurs="0" maxOccurs="unbounded" />
1033         <xs:element ref="Extension" minOccurs="0" />
1034     </xs:sequence>
1035     <xs:attributeGroup ref="commonAttributes" />
1036 </xs:complexType>
1037 <xs:element name="JobTitle" type="DSTString" />
1038 <xs:element name="LJobTitle" type="DSTLocalizedString" />
1039 <xs:element name="O" type="DSTString" />
1040 <xs:element name="LO" type="DSTLocalizedString" />
1041 <xs:element name="AltO" type="DSTString" />
1042 <xs:element name="AltLO" type="DSTLocalizedString" />
1043 <xs:element name="AddressCard" type="AddressCardType" />
1044 <xs:complexType name="AddressCardType">
1045     <xs:sequence>
1046         <xs:element ref="AddrType" minOccurs="0" maxOccurs="unbounded" />
1047         <xs:element ref="Address" minOccurs="0" />
1048         <xs:element ref="Nick" minOccurs="0" />
1049         <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded" />
1050         <xs:element ref="LComment" minOccurs="0" />
1051         <xs:element ref="Extension" minOccurs="0" />
1052     </xs:sequence>
1053     <xs:attributeGroup ref="commonAttributes" />
1054 </xs:complexType>
1055 <xs:element name="AddrType" type="DSTURI" />
1056 <xs:element name="Address" type="AddressType" />
1057 <xs:complexType name="AddressType">
1058     <xs:sequence>
1059         <xs:element ref="PostalAddress" minOccurs="0" />
1060         <xs:element ref="LPostalAddress" minOccurs="0" maxOccurs="unbounded" />
1061         <xs:element ref="PostalCode" minOccurs="0" />
1062         <xs:element ref="L" minOccurs="0" />
1063         <xs:element ref="LL" minOccurs="0" maxOccurs="unbounded" />
1064         <xs:element ref="St" minOccurs="0" />
1065         <xs:element ref="LSt" minOccurs="0" maxOccurs="unbounded" />
1066         <xs:element ref="C" minOccurs="0" />
1067         <xs:element ref="Extension" minOccurs="0" />
1068     </xs:sequence>
1069     <xs:attributeGroup ref="commonAttributes" />
1070 </xs:complexType>
1071 <xs:element name="PostalAddress" type="DSTString" />
1072 <xs:element name="LPostalAddress" type="DSTLocalizedString" />
1073 <xs:element name="PostalCode" type="DSTString" />
1074 <xs:element name="L" type="DSTString" />
1075 <xs:element name="LL" type="DSTLocalizedString" />
1076 <xs:element name="St" type="DSTString" />
1077 <xs:element name="LSt" type="DSTLocalizedString" />
1078 <xs:element name="C" type="DSTString" />
1079 <xs:element name="Nick" type="DSTString" />
1080 <xs:element name="LNick" type="DSTLocalizedString" />
1081 <xs:element name="LComment" type="DSTString" />
1082 <xs:element name="MsgContact" type="MsgContactType" />
1083 <xs:complexType name="MsgContactType">
1084     <xs:sequence>
1085         <xs:element ref="Nick" minOccurs="0" />
1086         <xs:element ref="LNick" minOccurs="0" maxOccurs="unbounded" />
1087         <xs:element ref="LComment" minOccurs="0" />
1088         <xs:element ref="MsgType" minOccurs="0" maxOccurs="unbounded" />
1089         <xs:element ref="MsgMethod" minOccurs="0" maxOccurs="unbounded" />
1090         <xs:element ref="MsgTechnology" minOccurs="0" maxOccurs="unbounded" />
1091         <xs:element ref="MsgProvider" minOccurs="0" />
1092         <xs:element ref="MsgAccount" minOccurs="0" />
```



```
1093         <xs:element ref="MsgSubaccount" minOccurs="0"/>
1094         <xs:element ref="Extension" minOccurs="0"/>
1095     </xs:sequence>
1096     <xs:attributeGroup ref="commonAttributes"/>
1097 </xs:complexType>
1098 <xs:element name="MsgType" type="DSTURI"/>
1099 <xs:element name="MsgMethod" type="DSTURI"/>
1100 <xs:element name="MsgTechnology">
1101     <xs:complexType>
1102         <xs:complexContent>
1103             <xs:extension base="DSTURI">
1104                 <xs:attribute name="msgLimit" type="xs:integer" use="optional"/>
1105             </xs:extension>
1106         </xs:complexContent>
1107     </xs:complexType>
1108 </xs:element>
1109 <xs:element name="MsgProvider" type="DSTString"/>
1110 <xs:element name="MsgAccount" type="DSTString"/>
1111 <xs:element name="MsgSubaccount" type="DSTString"/>
1112 <xs:element name="Facade" type="FacadeType"/>
1113 <xs:complexType name="FacadeType">
1114     <xs:sequence>
1115         <xs:element ref="MugShot" minOccurs="0"/>
1116         <xs:element ref="WebSite" minOccurs="0"/>
1117         <xs:element ref="NamePronounced" minOccurs="0"/>
1118         <xs:element ref="GreetSound" minOccurs="0"/>
1119         <xs:element ref="GreetMeSound" minOccurs="0"/>
1120         <xs:element ref="Extension" minOccurs="0"/>
1121     </xs:sequence>
1122     <xs:attributeGroup ref="commonAttributes"/>
1123 </xs:complexType>
1124 <xs:element name="MugShot" type="DSTURI"/>
1125 <xs:element name="WebSite" type="DSTURI"/>
1126 <xs:element name="NamePronounced" type="DSTURI"/>
1127 <xs:element name="GreetSound" type="DSTURI"/>
1128 <xs:element name="GreetMeSound" type="DSTURI"/>
1129 <xs:element name="Demographics" type="DemographicsType"/>
1130 <xs:complexType name="DemographicsType">
1131     <xs:sequence>
1132         <xs:element ref="DisplayLanguage" minOccurs="0"/>
1133         <xs:element ref="Language" minOccurs="0" maxOccurs="unbounded"/>
1134         <xs:element ref="Birthday" minOccurs="0"/>
1135         <xs:element ref="Age" minOccurs="0"/>
1136         <xs:element ref="TimeZone" minOccurs="0"/>
1137         <xs:element ref="Extension" minOccurs="0"/>
1138     </xs:sequence>
1139     <xs:attributeGroup ref="commonAttributes"/>
1140 </xs:complexType>
1141 <xs:element name="DisplayLanguage" type="DSTString"/>
1142 <xs:element name="Language" type="DSTString"/>
1143 <xs:element name="Birthday" type="DSTMonthDay"/>
1144 <xs:element name="Age" type="DSTInteger"/>
1145 <xs:element name="TimeZone" type="DSTString"/>
1146 <xs:element name="SignKey" type="KeyInfoType"/>
1147 <xs:element name="EncryptKey" type="KeyInfoType"/>
1148 <xs:element name="EmergencyContact" type="DSTString"/>
1149 <xs:element name="LEmergencyContact" type="DSTLocalizedString"/>
1150 </xs:schema>
```

7. WSDL for ID-SIS-PP

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.

```
1151 <?xml version="1.0" encoding="UTF-8"?>
1152 <wsdl:definitions
1153     xmlns:typens="urn:liberty:id-sis-pp:wsdl:2005-05"
1154     xmlns:xsd="http://www.w3.org/2001/XMLSchema"
1155     xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
1156     xmlns:pp="urn:liberty:id-sis-pp:2005-05"
1157     xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
1158     xmlns="http://schemas.xmlsoap.org/wsdl/"
1159     targetNamespace="urn:liberty:id-sis-pp:wsdl:2005-05" name="pp">
1160   <types>
1161     <xsd:schema>
1162       <xsd:import
1163         namespace="urn:liberty:id-sis-pp:2005-05"
1164         schemaLocation="liberty-idsis-pp-v1.1.xsd"/>
1165     </xsd:schema>
1166   </types>
1167   <message name="Query">
1168     <part name="body" element="pp:Query"/>
1169   </message>
1170   <message name="QueryResponse">
1171     <part name="body" element="pp:QueryResponse"/>
1172   </message>
1173   <message name="Modify">
1174     <part name="body" element="pp:Modify"/>
1175   </message>
1176   <message name="ModifyResponse">
1177     <part name="body" element="pp:ModifyResponse"/>
1178   </message>
1179   <portType name="DataServicePort">
1180     <operation name="QueryOperation">
1181       <input message="pp:Query"/>
1182       <output message="pp:QueryResponse"/>
1183     </operation>
1184     <operation name="ModifyOperation">
1185       <input message="pp:Modify"/>
1186       <output message="pp:ModifyResponse"/>
1187     </operation>
1188   </portType>
1189 </wsdl:definitions>
```

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