Liberty ID-SIS Employee Profile Service Specification
Version: 1.0

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Abstract:
The Liberty ID-SIS Employee Profile (ID-SIS-EP) specifies a web service. It offers profile information regarding employees. ID-SIS-EP provides basic employee information. ID-SIS-EP is an instance of data oriented identity web service. ID-SIS-EP is characterized by 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. Readers may also wish to familiarize themselves with the Liberty ID-SIS Personal Profile (ID-SIS-PP).

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1. Introduction

The Employment Identity Profile is a Liberty identity service that supports identity information regarding the Principal in the context of his or her employment. This document normatively describes an Employment Identity 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. Derivation of ID-SIS-EP from DST and WSF

The ID-SIS-EP service is an instance of the Data Services Template [LibertyDST] and 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-EP 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-ep:2003-08</td>
</tr>
<tr>
<td>Discovery Options</td>
<td>See section 2.1</td>
</tr>
<tr>
<td>Data Schema</td>
<td>See sec 4</td>
</tr>
<tr>
<td>SelectType Element</td>
<td>See sec 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 and notChangedSince</td>
<td>MAY</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-EP service to which an implementation and a subsequent deployment MUST conform. For an AP implementation to conform to this specification (ID-SIS-EP) it MUST adhere to all mandatory aspects of the specification.

A conforming ID-SIS-EP implementation MAY not support some optional ID-SIS-EP 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-EP 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-EP implementation". An implementation that is deficient in any feature or part of the schema MUST NOT be labeled as a "full ID-SIS-EP implementation". A "full ID-SIS-EP 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-EP deployment" or a "full ID-SIS-EP service". A full ID-SIS-EP 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-EP may be labeled as an "ID-SIS-EP deployment" or "ID-SIS-EP service" provided that the deployment publicly discloses the subset that it supports.

1.4. Namespaces

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

urn:liberty:id-sis-ep:2003-08

The Employee Profile namespace is abbreviated as "ep:" in this document. If the namespace has been omitted at any place in this document, "ep:" is to be considered 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 adverse effects.

Table 2. Referenced XML namespaces

<table>
<thead>
<tr>
<th>Prefix</th>
<th>URI</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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
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-EP 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-EP 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 it MAY register the `urn:liberty:dst:can:extend` discovery option keyword.
2. Discovery and Queries

2.1. Discovery Option Keywords

ID-SIS-EP 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 data availability oriented keywords extract selected components from the profile as if an XPATH expression were applied. An implementation is not required to use XPATH as long as 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>
<thead>
<tr>
<th>Keyword</th>
<th>Equivalent XPATHs</th>
<th>Meaning</th>
</tr>
</thead>
</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 such permissions on the data 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>
</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-EP schema for that category.

An implementation MAY also choose to support a read-only service. A read-only service 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:

```xml
<xs:simpleType name="SelectType">
```

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The Select string holds an XPATH expression. An ID-SIS-EP implementation MAY support full XPATH expressions 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-EP 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 wildcard cards or empty nodes. Although ID-SIS-EP may be extended, currently the complete set of all possible slashed paths is as follows:

```
/EP
/EP/EmployeeID
/EP/AltEmployeeID
/EP/DateOfHire
/EP/JobStartDate
/EP/EmployeeStatus
/EP/EmployeeType
/EP/InternalJobTitle
/EP/LInternalJobTitle
/EP/OU
/EP/LOU
/EP/CorpCommonName
/EP/CorpCommonName/CN
/EP/CorpCommonName/LCN
/EP/CorpCommonName/AltCN
/EP/CorpCommonName/LAltCN
/EP/CorpLegalIdentity
/EP/CorpLegalIdentity/LegalName
/EP/CorpLegalIdentity/LLegalName
/EP/CorpLegalIdentity/VAT
/EP/CorpLegalIdentity/VAT/IDValue
/EP/CorpLegalIdentity/VAT/IDType
/EP/CorpLegalIdentity/AltID
/EP/CorpLegalIdentity/AltID/IDValue
/EP/CorpLegalIdentity/AltID/IDType
/EP/ManagerEmployeeID
/EP/SubalternateEmployeeID
```

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

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

**2.3. Supported XPATH expressions for Modifies**

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

```
/ep:EP
```

This slashed path defines the minimal granularity of updates that MUST be supported. Updates to the container above SHOULD be atomic whenever 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-EP instance is NOT REQUIRED to report the same results to two instances of the same query. An ID-SIS-EP 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-EP instance MAY use the Interaction Service protocol [LibertyInteract] or out-of-band means to determine which data to return. An ID-SIS-EP 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-EP as a transparent data store as there may be multiple updates, permission, and policy reasons that impede transparency.

3.2. Support of Multiple Modifications Not Required

The Modify operation functions as described in [LibertyDST] with the additional relaxation that a minimally compliant ID-SIS-EP 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. Thus a minimally compliant implementation is not required 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:multipleModification.

As specified in [LibertyDST], a minimally compliant ID-SIS-EP implementation MUST support multiple QueryItem elements.
4. Containers and Attributes of the ID-SIS-EP

4.1. EP

Synopsis
Employer and employment details

Cardinality
0-1

XML schema:

```xml
<xs:element name="EP" type="EPType"/>
<xs:complexType name="EPType">
  <xs:sequence>
    <xs:element ref="EmployeeID" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="AltEmployeeID" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="DateOfHire" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="JobStartDate" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="EmployeeStatus" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="EmployeeType" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="InternalJobTitle" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LInternalJobTitle" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="OU" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LOU" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="CorpCommonName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="CorpLegalIdentity" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="ManagerEmployeeID" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="SubalternateEmployeeID" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

4.2. EmployeeID

Synopsis
Employee ID internal to enterprise (e.g. payroll number)

Data type
ces

Cardinality
0-1

4.3. AltEmployeeID

Synopsis
Alternate Employee ID internal to enterprise

Data type
ces

Cardinality
0-n
4.4. DateOfHire

Synopsis: Date of hiring

Data type: date

Cardinality: 0-1

4.5. JobStartDate

Synopsis: Job effective date

Data type: date

Cardinality: 0-1

4.6. EmployeeStatus

Synopsis: Status of the employee

Data type: URI

Cardinality: 0-1

The following enumerators MUST be supported. Additional enumerators MAY be defined as specified in [LibertyReg].

urn:liberty:id-sis-ep:employeestatus:active
urn:liberty:id-sis-ep:employeestatus:trial
urn:liberty:id-sis-ep:employeestatus:laid-off
urn:liberty:id-sis-ep:employeestatus:retired
urn:liberty:id-sis-ep:employeestatus:stop-pay
urn:liberty:id-sis-ep:employeestatus:terminated
urn:liberty:id-sis-ep:employeestatus:deceased

4.7. EmployeeType

Synopsis: Type of the employee

Data type: URI

Cardinality: 0-1
The following enumerators MUST be supported. Additional enumerators MAY be defined as specified in [LibertyReg].

urn:liberty:id-sis-ep:employeetype:contract-or-part-time
urn:liberty:id-sis-ep:employeetype:contract-full-time
urn:liberty:id-sis-ep:employeetype:volunteer-part-time
urn:liberty:id-sis-ep:employeetype:volunteer-full-time
urn:liberty:id-sis-ep:employeetype:trainee-part-time
urn:liberty:id-sis-ep:employeetype:trainee-full-time
urn:liberty:id-sis-ep:employeetype:seasonal-part-time
urn:liberty:id-sis-ep:employeetype:seasonal-full-time
urn:liberty:id-sis-ep:employeetype:temp-part-time
urn:liberty:id-sis-ep:employeetype:temp-full-time
urn:liberty:id-sis-ep:employeetype:regular-part-time
urn:liberty:id-sis-ep:employeetype:regular-full-time

4.8. InternalJobTitle

Synopsis  Job title that reflects actual function of the Principal
Data type  ces
Cardinality  0-1

4.9. LInternalJobTitle

Synopsis  Internal job title in a local language
Data type  ces
Cardinality  0-n

4.10. OU

Synopsis  Organizational unit, e.g. department, where the employee works
Data type  cis
Cardinality  0-1

4.11. LOU

Synopsis  Local script version of the organizational unit where the employee works
Data type  cis
Cardinality  0-n
4.12. CorpCommonName

Synopsis: The name the user likes to be called in everyday situations
Cardinality: 0-1

XML schema:

```xml
<xs:element name="CorpCommonName" type="CorpCommonNameType"/>
<xs:complexType name="CorpCommonNameType">
  <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="LAItCN" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

4.12.1. CN

Synopsis: Every day name in the Latin writing system
Data type: cis
Cardinality: 0-1

4.12.2. LCN

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

4.12.3. AltCN

Synopsis: Additional every day names in the Latin writing system
Data type: cis
Cardinality: 0-n

4.12.4. LAItCN

Synopsis: Additional every day name in a local writing system
4.13. CorpLegalIdentity

Synopsis: Official legal identification of the Principal

Cardinality: 0-1

XML schema:

```xml
<xs:element name="CorpLegalIdentity" type="CorpLegalIdentityType"/>
<xs:complexType name="CorpLegalIdentityType">
  <xs:sequence>
    <xs:element ref="LegalName" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="VAT" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

4.13.1. LegalName

Synopsis: Full legal name in the Latin writing system

Data type: cis

Cardinality: 0-1

4.13.2. LLegalName

Synopsis: Full legal name in a local writing system

Data type: cis

Cardinality: 0-n

4.13.3. VAT

Synopsis: Fiscal identification number

Cardinality: 0-1
Processing rules

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.

XML schema:

```xml
<xs:element name="VAT" type="VATType"/>
<xs:complexType name="VATType">
  <xs:sequence>
    <xs:element ref="IDValue" minOccurs="1" maxOccurs="1"/>
    <xs:element ref="IDType" minOccurs="0" maxOccurs="1"/>
    <xs:element ref="Extension" minOccurs="0"/>
  </xs:sequence>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

4.13.3.1. IDValue

Synopsis: Identification number value

Data type: ces

Cardinality: 0-1

4.13.3.2. IDType

Synopsis: Type of identification number stored in a VAT or AltID attribute

Data type: URI enumeration

Cardinality: 0-1

Enumerators are be defined as specified in [LibertyReg].

4.13.4. AltID

Synopsis: Other identification number

Cardinality: 0-n
Processing rules

If AP chooses to store AltID attributes, 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:

```xml
<xs:element name="AltID" type="AltIDType"/>
<xs:complexType name="AltIDType">
    <xs:sequence>
        <xs:element ref="IDValue" minOccurs="1" maxOccurs="1"/>
        <xs:element ref="IDType" minOccurs="0" maxOccurs="1"/>
        <xs:element ref="Extension" minOccurs="0"/>
    </xs:sequence>
    <xs:attributeGroup ref="commonAttributes"/>
</xs:complexType>
```

See VAT Section 4.13.3 for IDValue and IDType.

4.14. ManagerEmployeeID

Synopsis

Internal Employee ID if the Principal’s Manager

Data type

ces

Cardinality

0-1

4.15. SubAlternateEmployeeID

Synopsis

Internal Employee ID if the Principal is a Manager

Data type

ces

Cardinality

0-n
Formal XML schema for the ID-SIS-EP follows

```xml
<!-- Generated by gen-prof.pl $Id: lib-id-sis-ep.xsd,v 1.1.2.5 2003/11/06 21:23:34 jkemp Exp $ -->
<!-- adjust 2003-10-02 TDW: changed copyright -->
    xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" version="1.0">
  <xs:annotation>
    <xs:documentation>Title: Liberty ID-SIS Employee Profile Service Schema</xs:documentation>
    <xs:documentation>The source code in this XSD file was excerpted verbatim from: Liberty Liberty ID-SIS Employee 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:documentation>
  </xs:annotation>
  <xs:include schemaLocation="liberty-idwsf-dst-v1.0.xsd"/>
  <xs:include schemaLocation="liberty-idwsf-dst-dt-v1.0.xsd"/>
  <xs:element name="EP" type="EPType"/>
  <xs:complexType name="EPType">
    <xs:sequence>
      <xs:element ref="EmployeeID" minOccurs="0"/>
      <xs:element ref="AltEmployeeID" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="DateOfHire" minOccurs="0"/>
      <xs:element ref="JobStartDate" minOccurs="0"/>
      <xs:element ref="EmployeeStatus" minOccurs="0"/>
      <xs:element ref="EmployeeType" minOccurs="0"/>
      <xs:element ref="InternalJobTitle" minOccurs="0"/>
      <xs:element ref="LInternalJobTitle" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="OU" minOccurs="0"/>
      <xs:element ref="LOU" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="CorpCommonName" minOccurs="0"/>
      <xs:element ref="CorpLegalIdentity" minOccurs="0"/>
      <xs:element ref="ManagerEmployeeID" minOccurs="0"/>
      <xs:element ref="SubalternateEmployeeID" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="Extension" minOccurs="0"/>
    </xs:sequence>
    <xs:attributeGroup ref="commonAttributes"/>
  </xs:complexType>
  <xs:element name="EmployeeID" type="DSTString"/>
  <xs:element name="AltEmployeeID" type="DSTString"/>
  <xs:element name="DateOfHire" type="DSTDate"/>
  <xs:element name="JobStartDate" type="DSTDate"/>
  <xs:element name="EmployeeStatus" type="DSTURI"/>
  <xs:element name="EmployeeType" type="DSTURI"/>
  <xs:element name="InternalJobTitle" type="DSTString"/>
  <xs:element name="LInternalJobTitle" type="DSTLocalizedString"/>
  <xs:element name="OU" type="DSTString"/>
  <xs:element name="LOU" type="DSTLocalizedString"/>
  <xs:element name="CorpCommonName" type="CorpCommonNameType"/>
  <xs:element name="CorpLegalIdentity" type="CorpCommonNameType"/>
  <xs:element name="CN" minOccurs="0"/>
  <xs:element name="LCN" minOccurs="0" maxOccurs="unbounded"/>
  <xs:element name="AltCN" minOccurs="0" maxOccurs="unbounded"/>
  <xs:element name="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
  <xs:element ref="Extension" minOccurs="0"/>
  <xs:attributeGroup ref="commonAttributes"/>
</xs:schema>
```
<xs:element name="LCN" type="DSTLocalizedString"/>
<xs:element name="AltCN" type="DSTString"/>
<xs:element name="LAltCN" type="DSTLocalizedString"/>
<xs:complexType name="CorpLegalIdentityType">
  <xs:sequence>
    <xs:element ref="LegalName" minOccurs="0"/>
    <xs:element ref="LLegalName" minOccurs="0" maxOccurs="unbounded"/>
    <xs:element ref="VAT" minOccurs="0"/>
    <xs:element ref="AltID" minOccurs="0" maxOccurs="unbounded"/>
    <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="ManagerEmployeeID" type="DSTString"/>
<xs:element name="SubalternateEmployeeID" type="DSTString"/>
<xs:simpleType name="SelectType">
  <xs:restriction base="xs:string"/>
</xs:simpleType>
6. WSDL for ID-SIS-EP

The Abstract Web Services Description Language (WSDL) declaration for the ID-SIS-EP follows. The declaration states what is derived from [LibertyDST], namely that ID-SIS-EP is characterized by Query and Modify operations cast to the namespace of ID-SIS-EP.

```xml
targetNamespace="urn:liberty:id-sis-ep:2003-08" name="ep">
  <types>
    <xsd:schema>
      <xsd:annotation>
        <xsd:documentation>WSDL from Liberty ID-SIS Employee Profile Service Specification</xsd:documentation>
        <xsd:documentation>The source code in this WSDL file was excerpted verbatim from: Liberty ID-SIS Employee Profile Service Specification Version 1.0 12th November 2003 Copyright (c) 2003 Liberty Alliance participants, see https://www.projectliberty.org/specs/idwsf_copyrights.html</xsd:documentation>
      </xsd:annotation>
    </xsd:schema>
  </types>

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

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

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

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

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

Normative


Informative

