Liberty ID-SIS Employee Profile Service Specification

Version: 1.0

Editors:
Sampo Kellomäi, Symlabs

Contributors:
Jukka Kainulainen, Nokia
Lena Kannappan, France Telecom
Ariel Gordon, France Telecom
Vincent Guesdon, France Telecom
Carolina Canales, Ericsson
John Kemp, IEEE-ISTO
Tom Wason, IEEE-ISTO

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 familliarize themselves with the Liberty ID-SIS Personal Profile (ID-SIS-PP).

Filename: liberty-idsis-ep-v1.0.pdf

Notice

Copyright © 2003 America Online, Inc.; American Express Travel Related Services; Bank of America; Bell Canada; Cingular Wireless; Cisco Systems, Inc.; Communicator, Inc.; Deloitte & Touche LLP; Earthlink, Inc.; Electronic Data Systems, Inc.; Entrust, Inc.; Ericsson; Fidelity Investments; France Telecom; Gemplus; General Motors; Hewlett-Packard Company; i2 Technologies, Inc.; Intuit Inc.; MasterCard International; NEC Corporation; Netegrity; NeuStar; Nextel Communications; Nippon Telegraph and Telephone Corporation; Nokia Corporation; Novell, Inc.; NTT DoCoMo, Inc.; OneName Corporation; Openwave Systems Inc.; PricewaterhouseCoopers LLP; Register.com; Royal Mail; RSA Security Inc; Sabre Holdings Corporation; SAP AG; SchlumbergerSema; SK Telecom; Sony Corporation; Sun Microsystems, Inc.; Symlabs, Inc.; Trustgenix; United Airlines; VeriSign, Inc.; Visa International; Vodafone Group Plc; Wave Systems;. All rights reserved.

This specification document has been prepared by Sponsors of the Liberty Alliance. Permission is hereby granted to use the document solely for the purpose of implementing the Specification. No rights are granted to prepare derivative works of this Specification. Entities seeking permission to reproduce portions of this document for other uses must contact the Liberty Alliance to determine whether an appropriate license for such use is available.

Implementation of certain elements of this Specification may require licenses under third party intellectual property rights, including without limitation, patent rights. The Sponsors of and any other contributors to the Specification are not, and shall not be held responsible in any manner, for identifying or failing to identify any or all such third party intellectual property rights. **This Specification is provided "AS IS", and no participant in the Liberty Alliance makes any warranty of any kind, express or implied, including any implied warranties of merchantability, non-infringement of third party intellectual property rights, and fitness for a particular purpose.** Implementors of this Specification are advised to review the Liberty Alliance Project's website (http://www.projectliberty.org/) for information concerning any Necessary Claims Disclosure Notices that have been received by the Liberty Alliance Management Board.

Liberty Alliance Project
Licensing Administrator
c/o IEEE-ISTO
445 Hoes Lane
Piscataway, NJ 08855-1331, USA
info@projectliberty.org

Contents

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 1. DST Support Level

Parameter	**Value**
ServiceType	`urn:liberty:id-sis-ep:2003-08`
Discovery Options	See section 2.1
Data Schema	See sec 4
SelectType Element	See sec 2.2
Query Language	XPATH subset (see secs 2.2 and 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-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

Prefix	URI	Description
`xml:`	`http://www.w3.org/TR/REC-xml`	XML Definition [XML] (for xml:lang)
`xs:`	`http://www.w3.org/2002/XMLSchema`	XML Schema Definition [Schema1]

1.5. Extension and Namespace Reservation

There are six methods for accompishing 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 3. Data availability discovery option keywords

Keyword	Equivalent XPATHs	Meaning
`urn:liberty:id-sis-ep`	`/ep:EP`	Has some ID-SIS-EP data

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 4. Data update discovery option keywords

Keyword	Equivalent XPATHs	Meaning
`urn:liberty:id-sis-ep:can`	`/ep:EP`	Can store some ID-SIS-EP data

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:

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

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

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

```
<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:contractor-part-time
urn:liberty:id-sis-ep:employeetype:contractor-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:

```
<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="LAltCN" 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. LAltCN

Synopsis	Additional every day name in a local writing system

Data type	cis
Cardinality	0-n

4.13. CorpLegalIdentity

Synopsis	Official legal identification of the Principal
Cardinality	0-1

XML schema:

```
<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:

```
<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:

```
<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

5. XML schema for ID-SIS-EP

Formal XML schema for the ID-SIS-EP follows

```
<!-- Generated by gen-prof.pl  $Id: lib-id-sis-ep.xsd,v 1.1.2.5 2003/11/06 21:23:34 jkemp Exp $
from $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 -->
<xs:schema targetNamespace="urn:liberty:id-sis-ep:2003-08" xmlns="urn:liberty:id-sis-ep:2003-08
" xmlns:xs="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" version="1.0">
  <xs:annotation>
    <xs:documentation>Title: Liberty ID-SIS Employee Profile Services 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:complexType name="CorpCommonNameType">
    <xs:sequence>
      <xs:element ref="CN" minOccurs="0"/>
      <xs:element ref="LCN" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="AltCN" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="LAltCN" minOccurs="0" maxOccurs="unbounded"/>
      <xs:element ref="Extension" minOccurs="0"/>
    </xs:sequence>
    <xs:attributeGroup ref="commonAttributes"/>
  </xs:complexType>
  <xs:element name="CN" type="DSTString"/>
```

```
  <xs:element name="LCN" type="DSTLocalizedString"/>
  <xs:element name="AltCN" type="DSTString"/>
  <xs:element name="LAltCN" type="DSTLocalizedString"/>
  <xs:element name="CorpLegalIdentity" type="CorpLegalIdentityType"/>
  <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>
</xs:schema>
```

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.

```
<wsdl:definitions xmlns:typens="urn:liberty:id-sis-ep:wsdl:2003-08" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
 xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:ep="urn:liberty:id-sis-ep:2003-08"
xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" xmlns="http://schemas.xmlsoap.org/wsdl/"
targetNamespace="urn:liberty:id-sis-ep:wsdl:2003-08" name="ep">
  <types>
    <xsd:schema>
     <xsd:import namespace="urn:liberty:id-sis-ep:2003-08" schemaLocation="liberty-idsis-ep-v1.0.xsd
"/>
     <xsd:annotation>
       <xsd:documentation>WSDL fom 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>
</wsdl:definitions>
```

References

Normative

[LibertyDST] Kainulainen, Jukka, Ranganathan, Aravindan, eds. "Liberty ID-WSF Data Services Template Specification," Version 1.0, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyBindProf] Cantor, Scott, Kemp, John , eds. "Liberty ID-FF Bindings and Profiles Specification," Version 1.2, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyDisco] Sergent, Jonathan, eds. "Liberty ID-WSF Discovery Service Specification," Version 1.0, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyIDPP] Kellomäki, Sampo, eds. "Liberty Identity Personal Profile Service Specification ," Version 1.0,Liberty Alliance Project(12 November 2003). *http://www.projectliberty/specs*

[LibertyInteract] Aarts, Robert, eds. "Liberty ID-WSF Interaction Service Specification," Version 1.0, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyProtSchema] Cantor, Scott, Kemp, John, eds. "Liberty ID-FF Protocols and Schema Specification," Version 1.2, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyReg] Kemp, John, eds. "Liberty Enumeration Registry Governance," Version 1.0, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertySOAPBinding] Hodges, Jeff, Aarts, Robert, eds. " Liberty ID-WSF SOAP Binding Specification ," Version 1.0, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[RFC2119] Bradner, S., eds. "Key words for use in RFCs to Indicate Requirement Levels," RFC 2119, The Internet Engineering Task Force (March 1997). *ftp://ftp.rfc-editor.org/in-notes/rfc2119.txt*

[Schema1] Thompson, H.S., Beech, D., Maloney, M., Mendleshon, N., eds. (May 2002). "XML Schema Part 1: Structures," Recommendation, World Wide Web Consortium *http://www.w3.org/TR/xmlschema-1/*

[XML] Bray, T., Paoli, J., Sperberg-McQueen, C.M., Maler, Eve, eds. (Oct 2000). "Extensible Markup Language (XML) 1.0 (Second Edition)," Recommendation, World Wide Web Consortium *http://www.w3.org/TR/2000/REC-xml-20001006*

[XPATH] Clark , J., DeRose , S., eds. (16 November 1999). "XML Path Language (XPath) Version 1.0 ," Recommendation, W3C *http://www.w3.org/TR/xpath [August 2003]*.

Informative

[LibertyIDSISProfilesGuide] Wason, Tom, eds. "Liberty ID-SIS Personal and Employee Profiles Services Guidelines," Version 1.0, Liberty Alliance Project ( ). *http://www.projectliberty/specs*

[LibertyIDFFOverview] Wason, Thomas, eds. "Liberty ID-FF Architecture Overview," Version 1.2, Liberty Alliance Project (12 November 2003). *http://www.projectliberty.org/specs*

[LibertyIDWSFOverview] Tourzan, Johnathan, eds. "Liberty ID-WSF Architecture Overview," Version 1.0, Liberty Alliance Project ( ). *http://www.projectliberty/specs*