

# Systems Interoperability Framework™

## SIF Infrastructure Specification 3.7

January 21, 2025



This version:

<http://specification.sifassociation.org/Implementation/Infrastructure/3.7/>

Previous version:

<http://specification.sifassociation.org/Implementation/Infrastructure/3.6/>

Latest version:

<http://specification.sifassociation.org/Implementation/Infrastructure/>

API Documentation

[Infrastructure Services](#)

XSD Schemas

[Schema\\_NoIncludes\\_Strict](#) (single file, non-annotated) (ZIP archive)

[Schema\\_NoIncludes\\_Annotated\\_Strict](#) (single file, annotated) (ZIP archive)

[Schema\\_Strict](#) (includes, non-annotated) (ZIP archive)

[Schema\\_Annotated\\_Strict](#) (includes, annotated) (ZIP archive)

JSON Support

[Conversion Scripts](#)

[OpenAPI & JSON Schemas Files Archive](#)  
[PESC Compliant JSON](#)

This document is also available in these non-normative formats: [ZIP archive](#), [PDF \(for printing as a single file\)](#), [Excel spreadsheet](#).

Summaries of the changes in this release and errata since its release can be found with the [Background Supplementary Documentation](#)

[Errata](#) Updated 2025-05-22

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# Preamble

## 1.1 Abstract

### 1.1.1 What is SIF?

SIF is not a product, but a technical blueprint for enabling diverse applications to interact and share data related to entities in the pK-12 instructional and administrative environment. SIF is designed to:

- ⚙️ Facilitate data sharing and reporting between applications without incurring expensive customer development costs;
- ⚙️ Enhance product functionality efficiently; and
- ⚙️ Provide best-of-breed solutions to customers easily and seamlessly.

The SIF Implementation Specification defines common data formats and rules of interaction and architecture, and is made up of two parts:

- ⚙️ 1. The *SIF Infrastructure* Implementation Specification which defines the rules of interaction and messages framework, and;
- ⚙️ 2. The *SIF Data Model* Implementation Specification which is an XML-based data model, (with support for JSON translation), that models entities in the learning environment as SIF Data Objects to be shared between applications.

*SIF Infrastructure defines;*

- ⚙️ a secure REST-based transport protocol for defining both direct and brokered connections between software applications (which can act as REST servers or clients)
- ⚙️ a set of services to enable interactions between REST servers and clients, including creating environments, other administrative task, synchronous exchanges of data, and asynchronous message queues
- ⚙️ an abstract, platform-independent definition of the API between one software application and another or a broker.
- ⚙️ A *SIF Environment* is a distributed system that consists of one or more software applications with a SIF Adapter (a SIF-enabled application) sharing/reporting one or more SIF data objects over a network; it may also involve middleware (a message broker). A *SIF Implementation* consists of one or more SIF Environments deployed and configured to meet customer data sharing and reporting needs.
- ⚙️ The SIF Implementation Specification defines architecture requirements and communication protocols for software components and the interfaces between them; it makes no assumption of specific hardware or software products needed to develop SIF-enabled applications and/or middleware implementations, other than their ability to support technologies leveraged as the foundation for SIF, most prominently XML and HTTP(S) and including JSON and REST.

### 1.1.2 SIF Association

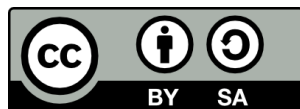
The Schools Interoperability Framework Association (SIF Association); also known as; the Systems Interoperability Framework Association outside North America, doing business as Access 4 Learning (A4L) Community, is an industry initiative to enable interoperability and data sharing between software applications in the pK-12 instructional and administrative environment, and the forum for companies and educators to participate in the development of SIF specifications in the SIF Association's working groups and task forces. The SIF Association is designed to:

- ⚙️ Join industry leaders in creating the next-generation framework for education technology; and
- ⚙️ Leverage co-marketing opportunities with partners and distributors.

This specification is released with the following provisos to developers and educators.

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## 1.4 Certification and Compliance Claims

Though a product may be demonstrated to comply with this specification, no product may be designated as *SIF Certified*<sup>™</sup> by an organization or individual until the product has been tested against and passed established compliance criteria, published separately [[SIFCertification](#)]. Organizations and individuals that are currently paying annual membership dues to the SIF Association and dedicating resources to the initiative may also use the designation *SIF Participant* to describe their involvement with the SIF Association and SIF in marketing, public relations and other materials.

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## 2 Introduction

### 2.1 Specification Organization

With respect to this SIF Specification, decision makers are typically interested in the capabilities and designs largely present in the Base Architecture volume. This document, the *SIF Infrastructure Specification*, contains an [Infrastructure](#) section describing the payloads used in a format that should not be a barrier to readers with a some knowledge of [\[XML\]](#). More technical readers, including software architects, developers and integrators, will also be interested in all the separate Infrastructure volumes.

-  The [Preamble](#) The Preamble provides an abstract of SIF along with the SIF Association disclaimer and details regarding certification and compliance claims.
-  This Introduction outlines the organization of this specification document, provides conventions used in this document, and summarizes versioning of the specification. Highlights of additions/changes since the previous version of the specification are also provided.
-  The [Infrastructure](#) section provides definitions of the XML structure for common elements in the infrastructure and all payloads related to the environment. This section is organized by natural groupings within the infrastructure.
-  The document concludes with various appendices including lists of code set values defined within SIF and in external documents, and ends with a list of [references](#) to other documents.

### 2.2 Document Conventions

#### 2.2.1 Definitions

The first time a term or concept is defined, it may be *emphasized*.

#### 2.2.2 Structure and Values

SIF message and object names, XML element tags, attribute names and values, and other codes or values are typically presented as in this sentence.

#### 2.2.3 Examples

##### JSON

```
{ "sample": "Longer examples of XML or HTTP messages are typically numbered and presented as given here." }
```

##### XML

```
Longer examples of XML or HTTP messages are typically numbered and presented as given here.
```

*Example 2.2.3-1: Examples Convention*

#### 2.2.4 References

References to other works occurring in this text are given in brackets, e.g. [REFERENCE]. The text in brackets corresponds to a key in the [References](#) appendix. Often when the text in the brackets duplicates surrounding text, the reference alone is used (e.g. [XML] instead of XML [XML]).

#### 2.2.5 Terminology

The key words **MUST**, **MUST NOT**, **REQUIRED**, **SHALL**, **SHALL NOT**, **SHOULD**, **SHOULD NOT**, **RECOMMENDED**, **MAY**, **OPTIONAL**, **when** **EMPHASIZED**, are to be interpreted as described in [\[RFC 2119\]](#).

#### 2.2.6 XML Diagrams

Quick overviews of XML structures, including messages, objects, common elements and types, are provided in XML diagrams. The following diagram illustrates the conventions typically encountered in SIF.

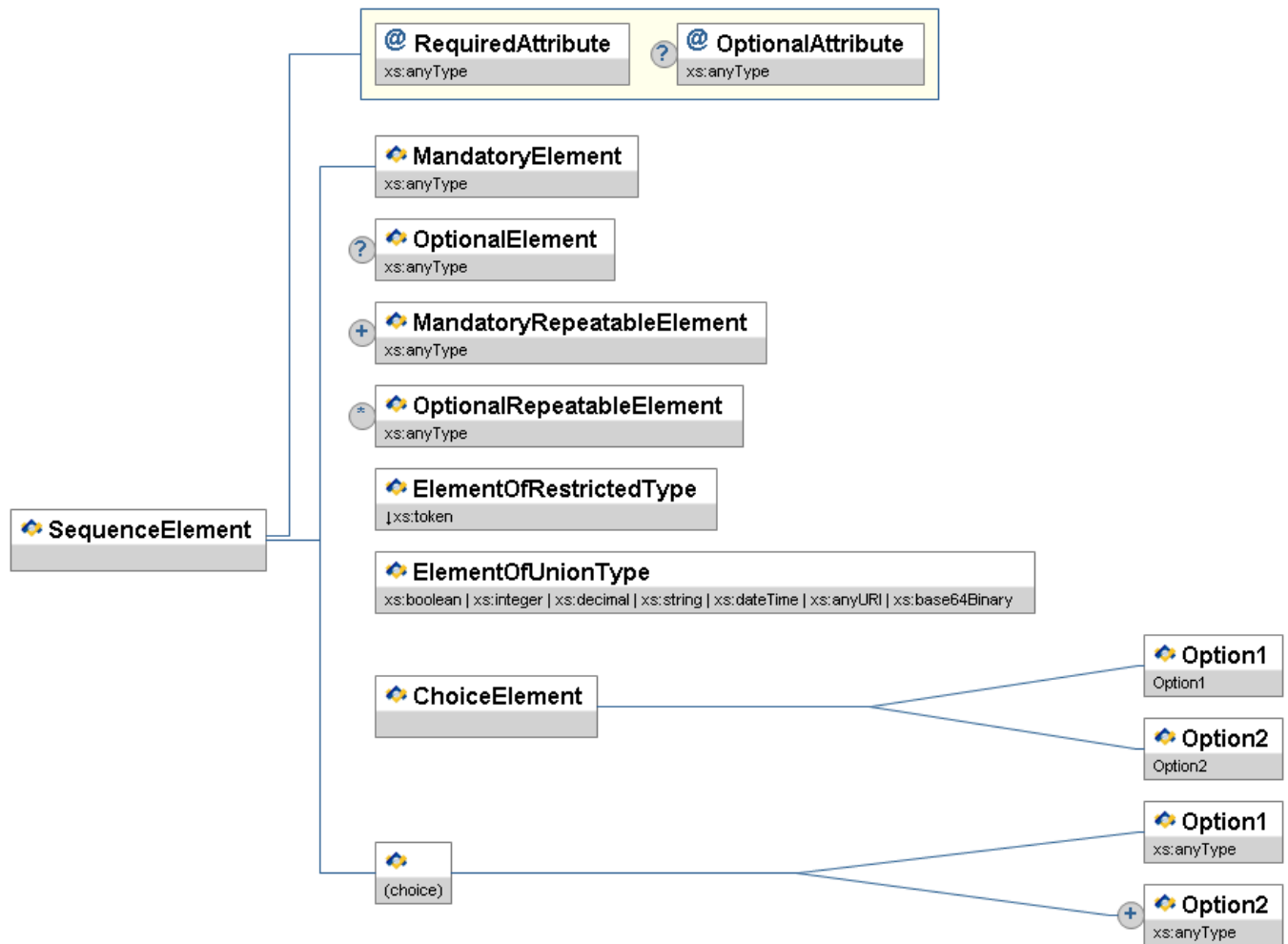


Figure 2.2.6-1: XML Diagram Conventions

XML elements are represented by rectangles with the name of the element in the upper portion and the type, if any, in the lower portion. Attributes are represented in the same fashion, but have an @ icon rather than a SIF icon. Elements and attributes that are optional have a circled ? (0 or 1 occurrence) to the left of the rectangle. Optional and mandatory repeatable elements are indicated by a circled \* (0 or more occurrences) and + (1 or more occurrences), respectively. Element attributes are grouped together in a rectangular block and connected to the element with a line that turns at right angles. Ordered sequences of XML elements are bracketed by lines that turn at right angles. When a choice of XML elements is indicated, the elements are bracketed by angled lines. A choice of elements can occur within an element, or may be an unnamed choice of elements.

XML types are represented using the same conventions as for XML elements, though the type portion of the rectangle typically indicates a base type, if any.

The type name of any element, attribute or type may be prefixed with a ↓, indicating the type is restricted in some fashion by one or more XML Schema facets (e.g. enumeration). When the type is a union of types, a list of types is presented, each type separated by |; if the list of union types is long, the list may be marked with ellipses, e.g., | ...

In an actual XML diagram, element, type and attribute rectangles are usually linked to their corresponding definitions/descriptions in accompanying tables.

## 2.3 Version Numbers

The SIF Implementation Specification uses the following version numbering scheme:

*major version.minor version.revision number(x.y.z)*

Once a versioned specification (Specification Release) has been released, the contents of that version MUST NOT be modified. Any modifications MUST be released under a new Specification Version Number unless the modification is the correction of an error or update of documentation. Each Specification Release has an associated errata section in which modifications and corrections of the release are listed.

A Specification Version Number for a Specification Release uses conventions as follows:

- ⚙ A Specification Version Number MAY take the form x.y.z where x, y, and z are nonnegative integers (whole numbers), and MUST NOT contain leading zeroes. x represents the *Major version*, y represents the *Minor version*, and z represents the *Revision version*.

- Each version number element MUST increase sequentially based on the guidelines defined within this document; for instance, 1.9.1 to 1.10 to 1.11 to 1.11.1 .
- Precedence refers to how versions are compared to each other when ordered. Precedence MUST be calculated by separating the version into major, minor, revision identifiers in that order. Precedence is determined by the first difference when comparing each of these identifiers from left to right as follows: Major, Minor, and Revision versions are always compared numerically; for example, 1.0.0 < 2.0.0 < 2.1.0 < 2.1.1 .

An instance of a Specification Version Number is the canonical identifier for a Specification Release. The manner in which the Specification Version Number increments after a given Specification Release depends on the type and relative magnitude of changes being proposed in the new release as follows:

1. The Revision version number ( z in x.y.z, where x >= 0 ) MUST be incremented when specification changes are limited to backward compatible changes. If z=0 then the convention is to drop the Revision number: for example, 3.1 instead of 3.1.0. Backward compatible changes include the following:

- New data object.
- New optional data object element.
- New optional utility service object element.

2. The Minor version number ( y in x.y.z, where x > 0 ) MUST be incremented if new functionality is added to the specification. It MUST be incremented if any aspect of the specification is marked as deprecated. It MUST be incremented if any aspect of the specification is not backward compatible. (Backward compatible means any change that can be implemented by one participant (consumer, Environment or service provider) without requiring changes by other participants to maintaining the same level of interoperability.) It MAY be incremented if substantial new functionality or improvements are introduced. It MAY include changes that are categorized as "Revision" level magnitude. The Revision version MUST be reset to 0 when the Minor version is incremented. Changes requiring a Minor version increment include the following:

- New mandatory data object element.
- New mandatory utility service object element.
- Deprecate data object element.
- Deprecate data object.
- Deprecate utility service object element.
- Deprecate utility service object.
- Remove deprecated data object element.
- Remove deprecated data object.
- Remove deprecated utility service object element.
- Remove deprecated utility service object.
- Add support for additional authentication methods.
- Add support for additional TLS version.
- Any changes concerning security.
- Any optional to mandatory change.
- Add support for additional payload representations.

3. The Major version number ( x in x.y.z, where x > 0 ) MUST be incremented if a significant change is introduced to the specification. It MAY include changes categorized as Minor and Revision level changes. The Revision and Minor version numbers MUST be reset to 0 when the Major version is incremented. Changes requiring a Major version increment include the following:

- Deprecate payload representation.
- Remove deprecated payload representation.
- Add support for a distinct data model namespace.
- Replace (deprecate and remove) a locale data model.
- Any significant change that requires the Major version to be incremented as deemed by the A4L Association Board for global specifications and Management Boards for locale data models.

## 2.4 Highlighted Additions/Changes

# 3 Infrastructure

## 3.1 Introduction

3.1.1 Format

The Char(acteristics) column for all the tables in this section use the following codes:

Code	Characteristic
M	Mandatory element or attribute
O	Optional element or attribute
C	Conditional element or attribute
MR	Mandatory and repeatable element
OR	Optional and repeatable element
CR	Conditional and repeatable element

Mandatory elements *MUST* be present in Add events, and in non-empty and non-error responses to requests for entire SIF objects (e.g., no SIF\_Query/SIF\_QueryObject/SIF\_Element elements supplied in the request). Mandatory attributes *MUST* always be present if their corresponding element is present.

SIF Adapters and message brokers *MUST* supply data according to the types specified in the Type columns and their corresponding equivalents in the most recent schema files associated with this specification. If there is a discrepancy between object and element definitions in this specification and the corresponding schema files, the definition in the schema files takes precedence; every effort will be made to note discrepancies in the [errata](#) for this document as they are identified.

3.1.2 Conventions

3.1.2.1 Object Attributes/Primary Keys

While XML attributes are primarily used in SIF to provide additional processing information regarding the associated element content, attributes at the root level of an object have special significance. These attributes serve as the primary key or identifier for the object; in all cases this is no more than a `id` GUID of [uuidType](#)

3.1.2.2 Externally-Defined XML

Note that XML not defined within SIF does not necessarily support ad hoc omission of XML elements at will to conform with the conventions of the SIF Publish/Subscribe Model (where unchanged elements are typically omitted in Change events, and where non-key elements are often omitted in Delete events) or of the SIF Request/Response Model (where a subset of elements can be retrieved from objects with requests). If externally-defined XML occurs within a SIF data object, SIF conventions do not extend to that XML unless that XML is defined to accommodate SIF conventions; the XML, when transmitted, must only conform to any external definitions dictating its structure, if any. Applications should be prepared for the possibility of receiving whole externally-defined XML structures in Change events (regardless of how little or much of the external XML has changed) and possibly also Delete events, likewise in responses even when a subset of the XML structure's child elements may have explicitly been requested.

3.1.2.3 Payload Validation

There are two sets of XSDs available for Validation of Payload.

3.1.2.3.1 Create

The first set, called "DataModel" or "Strict" is 'strict' and all of the elements that are required for validation are 'Mandatory' in this suite of XSDs. This suite is traditionally used for Creation of new entities, which generally require validation before being saved into a Data Store.

3.1.2.3.2 Update

The second set, called "SIF\_Message" or "Lax" is 'lax' and every element within the schema is 'optional' except the 'Id' the identifying GUID/UUID. (However, required elements are not nillable.) This suite of XSDs are traditionally used for Update and Delete of current entities. If an element is not included in the payload of an Update operation, its value is assumed to be unchanged. In addition, if the payload contains the Id/UUID only, the consumer must assume that object to be DELETED or that it has been deleted since the original request was made.

3.2 Privacy Services

3.2.1 pod

This object contains information about privacy obligations.



SIF\_Events are reported for this object.

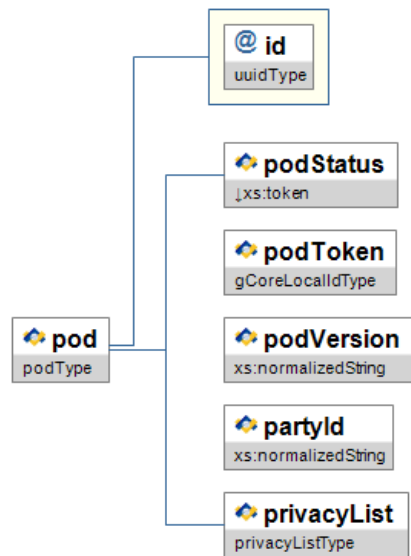


Figure 3.2.1-1: pod

Element/@Attribute		Char	Privacy Rating	Description	Type
	pod		Low	This object contains information about privacy obligations.	
@ key	id	M	Low	The ID (GUID) that uniquely identifies this object.	uuidType
	podStatus	M	Low	The status value for this POD.	values: Live Draft Pending Expired
	podToken	M	Low	The token reference for the POD, also conveyed as the dataPrivacyMarker header.	gCoreLocalIdType
	podVersion	M	Low	The POD version number. PODs are expected to change over time.	xs:normalizedString
	partyId	M	Low	The name of the party (typically the data processor) which will receive the data from the school, district or state and has entered into an agreement to process the data and respect the privacy obligations of the data.	xs:normalizedString
	privacyList	M	Low	The set of privacy controls, laws and obligations which apply in this POD. There may be multiple sets which apply.	privacyListType

Table 3.2.1-1: pod

JSON

```

{
  "pod": {
    "id": "D3E34839-9D79-4019-8C39-00AA001A1659",
    "podStatus": "live",
    "podToken": "1",
    "podVersion": "1.0.2",
    "partyId": "Compass",
    "privacyList": {
      "privacy": [
        {
          "default": "Y",
          "dataModelNamespace": "http://www.sifinfo.org/infrastructure/2.x",
          "dataModelVersionMin": "2.4",
          "dataModelVersionMax": "2.8",
          "privacyObligationsDocument": {
            "contract": {
              "contractURI": "http://www.vic.priv.contract.edu.au/contract.pdf",
              "contractName": "Sample contract ABC",
              "dateValidFrom": "2018-03-01",
              "dateValidTo": "2018-06-01",
              "contractVersion": "0.2",
              "lawList": {
                "law": [
                  {
                    "lawName": "APP1",
                    "lawDescription": "XXXXX"
                  },
                  {
                    "lawName": "APP2",
                    "lawDescription": "yyyy"
                  }
                ]
              }
            },
            "studentDataIPRights": "Victorian Department of Education"
          }
        }
      ]
    },
    "legalRequirements": {
      "clauseList": {
        "clause": [
          {
            "clauseLabel": "Data Access",
            "clauseReference": "US-I.3",
            "clauseContent": "The agent shall access only data necessary to accomplish the business task for which it is contracted.",
            "obligationList": {
              "obligation": [
                {
                  "obligationDescription": "Restrict access to data fields to match the state profile.",
                  "obligationURL": "https://thewave.sde.ok.gov/thewave/Portals/0/2%20x%20Wave%20Requirements_v1%2010.pdf",
                  "benchmarkList": {
                    "benchmark": [
                      {
                        "benchmarkName": "Oklahoma State Profile"
                      }
                    ]
                  }
                }
              ]
            }
          }
        ]
      }
    },
    "technicalRequirements": {
      "dataAccess": {
        "clauseList": {
          "clause": [
            {
              "clauseReference": "US-I.3"
            }
          ]
        },
        "fieldList": {
          "field": [
            {
              "fieldName": "/SchoolInfo/@RefId",
              "controlrights": "R"
            },
            {
              "fieldName": "/SchoolInfo/LocalId",
              "controlrights": "R"
            },
            {
              "fieldName": "/SchoolInfo/ACARAId",
              "controlrights": "RW"
            },
            {
              "fieldName": "/StudentPersonal/@RefId",
              "controlrights": "RW"
            },
            {
              "fieldName": "/StudentPersonal/LocalId",
              "controlrights": "RW"
            },
            {
              "fieldName": "/StudentPersonal/FirstAUSchoolEnrollment",
              "controlrights": "RW"
            }
          ]
        }
      },
      "conditionList": {
        "condition": [
          {
            "typeOfCondition": "XQUERYTEMPLATE",
            "conditionName": "RetrieveByGrade",
            "conditionDescription": "Returns a StudentJoin of StudentPersonal and StudentSchoolEnrollment for the GradeLevel specified as a parameter."
          },
          {
            "typeOfCondition": "contextId",
            "conditionName": "CurrentEnrollment",
            "conditionDescription": "Only works with student data whose records indicate they are currently enrolled according to the StudentSchoolEnrollment SI",
            "propertyList": {
              "property": [
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                  "propertyName": "Enrolled After",
                  "propertyValue": "/StudentSchoolEnrollment/EntryDate>=2018-09-01"
                },
                {
                  "propertyName": "Enrolled Before",
                  "propertyValue": "/StudentSchoolEnrollment/EntryDate<=2019-09-01"
                }
              ]
            }
          }
        ]
      }
    },
    "dataSubject": {

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"clauseList": {
  "clause": [
    {
      "clauseReference": "US-Subject1",
      "obligationList": {
        "obligation": [
          {
            "obligationDescription": "FERPA requires records be delivered within 45 days of a request.",
            "obligationURL": "https://www2.ed.gov/policy/gen/guid/fpco/brochures/parents.html",
            "benchmarkList": {
              "benchmark": [
                {
                  "benchmarkName": "Family Educational Rights and Privacy Act (FERPA)"
                }
              ]
            }
          }
        ]
      }
    }
  ]
},
"fieldList": {
  "field": [
    {
      "fieldName": "/StudentPersonal/@RefId"
    },
    {
      "fieldName": "/StudentPersonal/LocalId"
    },
    {
      "fieldName": "/StudentPersonal/FirstAUSchoolEnrollment"
    }
  ]
},
"respondInDays": 45,
"requirePortability": "Y"
},
"dataDeletion": {
  "deleteData": "Y",
  "dataRetention": 30,
  "deleteBy": "2019-07-15",
  "partyToDeleteData": {
    "organisation": "Local LEA",
    "deletecontactInfo": {
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        "familyName": "EEe",
        "givenName": "Agg",
        "otherGivenNames": "hh"
      },
      "positionTitle": "Data Owner",
      "emailList": {
        "email": [
          "DataSec@localLEA.edu.au"
        ]
      },
      "phoneNumberList": {
        "phoneNumber": [
          {
            "number": "(03) 8888-9999"
          }
        ]
      }
    }
  }
},
"securityTechnologyList": {
  "securityTechnology": [
    {
      "clauseList": {
        "clause": [
          {
            "clauseReference": "US-V.1.c"
          }
        ]
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      "versionMin": "1.2"
    }
  ]
},
"dataController": {
  "dataControllerName": "Victorian Department of Education",
  "privacyPolicyURL": "http://www.vic.priv.policy.edu.au/privacy.pdf",
  "privacyContactList": {
    "contact": [
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        "name": {
          "familyName": "Smith",
          "givenName": "Christime",
          "otherGivenNames": "Margaret"
        },
        "positionTitle": "Admin",
        "emailList": {
          "email": [
            "chris@whoville.vic.edu.au"
          ]
        },
        "phoneNumberList": {
          "phoneNumber": [
            {
              "number": "(03) 9600-0102"
            }
          ]
        }
      }
    ]
  },
  "issuesNotificationContactList": {
    "contact": [
      {
        "name": {
          "familyName": "BBBB",
          "givenName": "AAA",
          "otherGivenNames": "CCC"
        },
        "positionTitle": "Data Security",
        "emailList": {
          "email": [
            "DataSec@whoville.edu.au"
          ]
        },
        "phoneNumberList": {
          "phoneNumber": [
            {
              "number": "(03) 8888-9999"
            }
          ]
        }
      }
    ]
  }
}

```

```

    }
  }
}
},
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  "privacyPolicyURL": "www.ceo.priv.policy.edu.au",
  "privacyContactList": {
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          "familyName": "Woodall",
          "givenName": "Charles",
          "otherGivenNames": "William"
        },
        "positionTitle": "Admin",
        "emailList": {
          "email": [
            "drseuss@whoville.k12.ceo.edu.au"
          ]
        },
        "phoneNumberList": {
          "phoneNumber": [
            {
              "number": "(08) 8555-0102"
            }
          ]
        }
      }
    ]
  },
  "notifyDataControllerOnAccessRequests": "Y",
  "dataProcessorContactForAccessRequestsList": {
    "contact": [
      {
        "name": {
          "familyName": "XXX",
          "givenName": "YYY",
          "otherGivenNames": "ZZZ"
        },
        "positionTitle": "Privacy Officer",
        "emailList": {
          "email": [
            "off@whoville.au"
          ]
        },
        "phoneNumberList": {
          "phoneNumber": [
            {
              "number": "(03) 9999-9999"
            }
          ]
        }
      }
    ]
  },
  "purposeList": {
    "purpose": [
      "Admin System",
      "Australian Schools List"
    ]
  },
  "alternatePurposeList": {
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      "Student Portal"
    ]
  },
  "deidentifiedPurposeList": {
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      "Research"
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          "givenName": "YYY",
          "otherGivenNames": "ZZZ"
        },
        "positionTitle": "Privacy Officer",
        "emailList": {
          "email": [
            "off@whoville.au"
          ]
        },
        "phoneNumberList": {
          "phoneNumber": [
            {
              "number": "(03) 9999-9999"
            }
          ]
        }
      }
    ]
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  "employeesMustComplyWithAgreement": "Y",
  "employeeConfidentialityAgreement": "Y",
  "employeeTrainingList": {
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        "trainingURL": ""
      }
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    "standardURL": ""
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        "testType": "Pen Test",
        "testFrequency": "Annual",
        "remediationRequiredIn": "7 days",
        "shareResults": "Y"
      },
      {
        "testType": "Vulnerability Test",
        "testFrequency": "Monthly",
        "remediationRequiredIn": "24hours",
        "shareResults": "Y"
      }
    ]
  }
}

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    }
  },
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      },
      {
        "country": "1102",
        "usage": "Exposed"
      }
    ]
  }
},
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      "subProcessorName": "One",
      "privacyPolicyURL": "www.one.edu.au",
      "privacyContactList": {
        "contact": [
          {
            "name": {
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              "otherGivenNames": "William"
            },
            "positionTitle": "Admin",
            "emailList": {
              "email": [
                "drseuss@whoville.k12.ceo.edu.au"
              ]
            },
            "phoneNumberList": {
              "phoneNumber": [
                {
                  "number": "(08) 8555-0102"
                }
              ]
            }
          }
        ]
      },
      "purposeList": {
        "purpose": [
          "Attendance"
        ]
      }
    },
    {
      "subProcessorName": "Two",
      "privacyPolicyURL": "www.two.edu.au",
      "privacyContactList": {
        "contact": [
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            "name": {
              "familyName": "Two",
              "givenName": "Charles",
              "otherGivenNames": "William"
            },
            "positionTitle": "Admin",
            "emailList": {
              "email": [
                "drseuss@whoville.k12.ceo.edu.au"
              ]
            },
            "phoneNumberList": {
              "phoneNumber": [
                {
                  "number": "(08) 8555-0102"
                }
              ]
            }
          }
        ]
      },
      "purposeList": {
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        ]
      }
    },
    {
      "subProcessorName": "Three",
      "privacyPolicyURL": "www.three.edu.au",
      "privacyContactList": {
        "contact": [
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            "name": {
              "familyName": "Third",
              "givenName": "Charles",
              "otherGivenNames": "William"
            },
            "positionTitle": "Admin",
            "emailList": {
              "email": [
                "drseuss@whoville.k12.ceo.edu.au"
              ]
            },
            "phoneNumberList": {
              "phoneNumber": [
                {
                  "number": "(08) 8555-0102"
                }
              ]
            }
          }
        ]
      },
      "purposeList": {
        "purpose": [
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        ]
      }
    }
  ]
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"default": "N",
"appIDList": {
  "appID": [
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  ]
}
},

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    },
    "zoneContextList": {
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          "contextId": ""
        }
      ]
    },
    "privacyObligationsDocument": {
      "technicalRequirements": {
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                "controlrights": "R"
              },
              {
                "fieldName": "/SchoolInfo/LocalId",
                "controlrights": "R"
              },
              {
                "fieldName": "/SchoolInfo/ACARAIId",
                "controlrights": "R"
              },
              {
                "fieldName": "/StudentPersonal/@RefId",
                "controlrights": "R"
              },
              {
                "fieldName": "/StudentPersonal/LocalId",
                "controlrights": "R"
              },
              {
                "fieldName": "/StudentPersonal/FirstAUSchoolEnrollment",
                "controlrights": "R"
              },
              {
                "fieldName": "/TimeTable/*",
                "controlrights": "RW"
              }
            ]
          }
        }
      }
    },
    "default": "N",
    "adapterFingerprintList": {
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        "b4ef12ce-7025-11e8-adc0-fa7ae01bbebc"
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          "contextId": ""
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    "dataModelVersionMin": "2.3",
    "dataModelVersionMax": "2.9"
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  {
    "default": "N",
    "adapterFingerprintList": {
      "adapterFingerprint": [
        "b4ef12ce-7025-11e8-adc0-fa7ae01bbebc"
      ]
    },
    "zoneContextList": {
      "zoneContext": [
        {
          "zoneId": "4003",
          "contextId": ""
        }
      ]
    },
    "dataModelNamespace": "http://www.sifinfo.org/infrastructure/2.x",
    "dataModelVersionMin": "2.1",
    "dataModelVersionMax": "2.8",
    "privacyObligationsDocument": {
      "technicalRequirements": {
        "securityTechnologyList": {
          "securityTechnology": [
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              "technologyName": "SSL",
              "technologyDescription": "",
              "referenceURL": ""
            }
          ]
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  }
}

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XML

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<pod id="D3E34839-9D79-4019-8C39-00AA001A1659">
  <podStatus>Live</podStatus>
  <!-- podStatus - The status value for this POD. -->
  <podToken>1</podToken>
  <!-- podToken - The token reference for the POD, also conveyed as the dataPrivacyMarker header. -->
  <podVersion>1.0.2</podVersion>
  <!-- podVersion - The POD version number. PODs are expected to change over time. -->
  <partyId>Compass</partyId>
  <!-- partyId - The name of the party (typically the data processor) which will receive the data from the school, district or state and has entered into an agreement to
  <privacyList>
    <default>Y</default>
    <dataModelNamespace>http://www.sifinfo.org/infrastructure/2.x</dataModelNamespace>
    <dataModelVersionMin>2.4</dataModelVersionMin>
    <dataModelVersionMax>2.8</dataModelVersionMax>
    <!-- Privacy Obligations - holds information about the contract -->
    <privacyObligationsDocument>
      <contract>
        <contractURI>http://www.vic.priv.contract.edu.au/contract.pdf</contractURI>
        <contractName>Sample contract ABC</contractName>
        <dateValidFrom>2018-03-01</dateValidFrom>
        <dateValidTo>2018-06-01</dateValidTo>
        <contractVersion>0.2</contractVersion>
        <lawList>
          <law>
            <lawName>APP1</lawName>
            <lawDescription>XXXX</lawDescription>
          </law>
          <law>
            <lawName>APP2</lawName>
            <lawDescription>yyyy</lawDescription>
          </law>
        </lawList>
        <studentDataIPRights>Victorian Department of Education</studentDataIPRights>
      </contract>
      <legalRequirements>
        <clauseList>
          <clause>
            <clauseLabel>Data Access</clauseLabel>
            <clauseReference>US-I.3</clauseReference>
            <clauseContent>The agent shall access only data necessary to accomplish the business task for which it is contracted.</clauseContent>
            <obligationList>
              <obligation>
                <obligationDescription>Restrict access to data fields to match the state profile.</obligationDescription>
                <obligationURL>https://thewave.sde.ok.gov/thewave/Portals/0/Z%20x%20Wave%20Requirements_v1%2010.pdf</obligationURL>
                <benchmarkList>
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                    <benchmarkName>Oklahoma State Profile</benchmarkName>
                  </benchmark>
                </benchmarkList>
              </obligation>
            </obligationList>
          </clause>
        </clauseList>
      </legalRequirements>
      <technicalRequirements>
        <dataAccess>
          <clauseList>
            <clause>
              <clauseReference>US-I.3</clauseReference>
            </clause>
          </clauseList>
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            </field>
            <field>
              <fieldName>/SchoolInfo/LocalId</fieldName>
              <controlRights>R</controlRights>
            </field>
            <field>
              <fieldName>/SchoolInfo/ACARAIId</fieldName>
              <controlRights>RW</controlRights>
            </field>
            <field>
              <fieldName>/StudentPersonal/@RefId</fieldName>
              <controlRights>RW</controlRights>
            </field>
            <field>
              <fieldName>/StudentPersonal/LocalId</fieldName>
              <controlRights>RW</controlRights>
            </field>
            <field>
              <fieldName>/StudentPersonal/FirstAUSchoolEnrollment</fieldName>
              <controlRights>RW</controlRights>
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          </fieldList>
        </dataAccess>
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            <conditionDescription>Returns a StudentJoin of StudentPersonal and StudentSchoolEnrollment for the GradeLevel specified as a parameter.</conditionDescription>
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          <condition>
            <typeOfCondition>contextId</typeOfCondition>
            <conditionName>CurrentEnrollment</conditionName>
            <conditionDescription>Only works with student data whose records indicate they are currently enrolled according to the StudentSchoolEnrollment SIF object.</conditionDescription>
          </condition>
          <propertyList>
            <property>
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              <propertyValue>/StudentSchoolEnrollment/EntryDate>=2018-09-01</propertyValue>
            </property>
            <property>
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              <propertyValue>/StudentSchoolEnrollment/EntryDate<=2019-09-01</propertyValue>
            </property>
          </propertyList>
        </conditionList>
      </technicalRequirements>
      <!-- Who the information is about. Typically a Student and/or a Parent and/or a Teacher. -->
      <dataSubject>
        <clauseList>
          <clause>
            <clauseReference>US-Subject1</clauseReference>
            <obligationList>
              <obligation>
                <obligationDescription>FERPA requires records be delivered within 45 days of a request.</obligationDescription>
                <obligationURL>https://www2.ed.gov/policy/gen/guid/fpco/brochures/parents.html</obligationURL>
                <benchmarkList>
                  <benchmark>
                    <benchmarkName>Family Educational Rights and Privacy Act (FERPA)</benchmarkName>
                  </benchmark>
                </benchmarkList>
              </obligation>
            </obligationList>
          </clause>
        </clauseList>
      </dataSubject>
    </privacyObligationsDocument>
  </privacyList>
</pod>

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</clause>
</clauseList>
<fieldList>
<!-- information that must be supplied to the Data Subject if request as per Clause above. -->
<field>
<fieldName>StudentPersonal/@RefId</fieldName>
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<field>
<fieldName>StudentPersonal/LocalId</fieldName>
</field>
<field>
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</fieldList>
<respondInDays>45</respondInDays>
<requirePortability>Y</requirePortability>
</dataSubject>
<!-- obligations relating to the deletion of data. -->
<dataDeletion>
<deleteData>Y</deleteData>
<dataRetention>30</dataRetention>
<deleteBy>2019-07-15</deleteBy>
<partyToDeleteData>
<organisation>Local LEA</organisation>
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<givenName>Agg</givenName>
<otherGivenNames>hh</otherGivenNames>
</name>
<positionTitle>Data Owner</positionTitle>
<emailList>
<email>DataSec@localLEA.edu.au</email>
</emailList>
<phoneNumberList>
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<number>(03) 8888-9999</number>
</phoneNumber>
</phoneNumberList>
</deleteContactInfo>
</partyToDeleteData>
</dataDeletion>
<!-- Aligned to the SDPC work for consideration. -->
<securityTechnologyList>
<securityTechnology>
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<clause>
<clauseReference>US-V.1.c</clauseReference>
</clause>
</clauseList>
<!-- See Security Protocol clause above. -->
<technologyName>TLS</technologyName>
<versionMin>1.2</versionMin>
</securityTechnology>
</securityTechnologyList>
</technicalRequirements>
<dataController>
<!-- Those who are in charge of storing and controlling the information on behalf of parents. -->
<dataControllerName>Victorian Department of Education</dataControllerName>
<privacyPolicyURL>http://www.vic.priv.policy.edu.au/privacy.pdf</privacyPolicyURL>
<privacyContactList>
<contact>
<!-- Simplify these! More like: http://specification.sifassociation.org/Implementation/NA/3.7/Collections/xStaffs.xhtml -->
<name>
<familyName>Smith</familyName>
<givenName>Christine</givenName>
<otherGivenNames>Margaret</otherGivenNames>
</name>
<positionTitle>Admin</positionTitle>
<emailList>
<email>chris@whoville.vic.edu.au</email>
</emailList>
<phoneNumberList>
<phoneNumber>
<number>(03) 9600-0102</number>
</phoneNumber>
</phoneNumberList>
</contact>
</privacyContactList>
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<givenName>AAA</givenName>
<otherGivenNames>CCC</otherGivenNames>
</name>
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</emailList>
<phoneNumberList>
<phoneNumber>
<number>(03) 8888-9999</number>
</phoneNumber>
</phoneNumberList>
</contact>
</issuesNotificationContactList>
</dataController>
<dataProcessor>
<!-- Data processor is the vendor who will be accessing, consuming and/or providing back information. -->
<dataProcessorName>CEOProcessor2</dataProcessorName>
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<privacyContactList>
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<otherGivenNames>William</otherGivenNames>
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<emailList>
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</emailList>
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<phoneNumber>
<number>(08) 8555-0102</number>
</phoneNumber>
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</contact>
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<dataProcessorContactForAccessRequestsList>
<contact>
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<familyName>XXX</familyName>
<givenName>YYY</givenName>
<otherGivenNames>ZZZ</otherGivenNames>
</name>

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    <positionTitle>Privacy Officer</positionTitle>
    <emailList>
      <email>off@whoville.au</email>
    </emailList>
    <phoneNumberList>
      <phoneNumber>
        <number>(03) 9999-9999</number>
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    </phoneNumberList>
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<purposeList>
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  <purpose>Australian Schools List</purpose>
</purposeList>
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</alternatePurposeList>
<deidentifiedPurposeList>
  <deidentifiedPurpose>Research</deidentifiedPurpose>
</deidentifiedPurposeList>
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<personalInformationUpdatedFromSource>10</personalInformationUpdatedFromSource>
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      <givenName>YYY</givenName>
      <otherGivenNames>ZZZ</otherGivenNames>
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    <emailList>
      <email>off@whoville.au</email>
    </emailList>
    <phoneNumberList>
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        <number>(03) 9999-9999</number>
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    </phoneNumberList>
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<employeeConfidentialityAgreement>Y</employeeConfidentialityAgreement>
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  <securityTestRequired>
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    <testFrequency>Monthly</testFrequency>
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    <usage>Exposed</usage>
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</countryImpactedList>
</dataProcessor>
<dataSubProcessorList>
  <!-- List of entities that provide services to the Data Processor. They also handle the data and must be aware of privacy obligations. e.g. Google, iCloud, Mic
  <dataSubProcessor>
    <subProcessorName>One</subProcessorName>
    <!-- Caps? -->
    <privacyPolicyURL>www.one.edu.au</privacyPolicyURL>
    <privacyContactList>
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        <name>
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          <givenName>Charles</givenName>
          <otherGivenNames>William</otherGivenNames>
        </name>
        <positionTitle>Admin</positionTitle>
        <emailList>
          <email>drseuss@whoville.k12.ceo.edu.au</email>
        </emailList>
        <phoneNumberList>
          <phoneNumber>
            <number>(08) 8555-0102</number>
          </phoneNumber>
        </phoneNumberList>
      </contact>
    </privacyContactList>
    <purposeList>
      <purpose>Attendance</purpose>
    </purposeList>
  </dataSubProcessor>
  <dataSubProcessor>
    <subProcessorName>Two</subProcessorName>
    <privacyPolicyURL>www.two.edu.au</privacyPolicyURL>
    <privacyContactList>
      <contact>
        <name>
          <familyName>Two</familyName>
          <givenName>Charles</givenName>
          <otherGivenNames>William</otherGivenNames>
        </name>
        <positionTitle>Admin</positionTitle>
        <emailList>
          <email>drseuss@whoville.k12.ceo.edu.au</email>
        </emailList>
        <phoneNumberList>
          <phoneNumber>
            <number>(08) 8555-0102</number>
          </phoneNumber>
        </phoneNumberList>
      </contact>
    </privacyContactList>

```

```

    <purpose>TimeTabling</purpose>
  </purposeList>
</dataSubProcessor>
<dataSubProcessor>
  <subProcessorName>Three</subProcessorName>
  <privacyPolicyURL>www.three.edu.au</privacyPolicyURL>
  <privacyContactList>
    <contact>
      <name>
        <familyName>Third</familyName>
        <givenName>Charles</givenName>
        <otherGivenNames>William</otherGivenNames>
      </name>
      <positionTitle>Admin</positionTitle>
      <emailList>
        <email>drseuss@whoville.k12.ceo.edu.au</email>
      </emailList>
      <phoneNumberList>
        <phoneNumber>
          <number>(08) 8555-0102</number>
        </phoneNumber>
      </phoneNumberList>
    </contact>
  </privacyContactList>
  <purposeList>
    <purpose>StudentPortal</purpose>
  </purposeList>
</dataSubProcessor>
</dataSubProcessorList>
</privacyObligationsDocument>
</privacy>
<privacy>
  <default>N</default>
  <appIDList>
    <appID>TT12</appID>
  </appIDList>
  <adapterFingerprintList>
    <adapterFingerprint>b4ef12ce-7025-11e8-adc0-fa7ae01bbebc</adapterFingerprint>
  </adapterFingerprintList>
  <zoneContextList>
    <zoneContext>
      <zoneId>4001</zoneId>
      <contextId />
    </zoneContext>
  </zoneContextList>
  <!-- List of rest endpoints -->
  <privacyObligationsDocument>
    <technicalRequirements>
      <dataAccess>
        <!-- Since a POD represents a contract, only these should vary. As such the replacement logic, should apply to each immediate child found here. -->
        <!-- holds the green list and the permissions or conditions on these elements. -->
        <fieldList>
          <field>
            <fieldName>SchoolInfo/@RefId</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>SchoolInfo/LocalId</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>SchoolInfo/ACARAIId</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>StudentPersonal/@RefId</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>StudentPersonal/LocalId</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>StudentPersonal/FirstAUSchoolEnrollment</fieldName>
            <controlRights>R</controlRights>
          </field>
          <field>
            <fieldName>TimeTable/*</fieldName>
            <controlRights>RW</controlRights>
          </field>
        </fieldList>
      </dataAccess>
    </technicalRequirements>
  </privacyObligationsDocument>
</privacy>
<privacy>
  <default>N</default>
  <adapterFingerprintList>
    <adapterFingerprint>b4ef12ce-7025-11e8-adc0-fa7ae01bbebc</adapterFingerprint>
  </adapterFingerprintList>
  <zoneContextList>
    <zoneContext>
      <zoneId>4002</zoneId>
      <contextId />
    </zoneContext>
  </zoneContextList>
  <dataModelNamespace>http://www.sifinfo.org/infrastructure/2.x</dataModelNamespace>
  <dataModelVersionMin>2.3</dataModelVersionMin>
  <dataModelVersionMax>2.9</dataModelVersionMax>
</privacy>
<privacy>
  <default>N</default>
  <adapterFingerprintList>
    <adapterFingerprint>b4ef12ce-7025-11e8-adc0-fa7ae01bbebc</adapterFingerprint>
  </adapterFingerprintList>
  <zoneContextList>
    <zoneContext>
      <zoneId>4003</zoneId>
      <contextId />
    </zoneContext>
  </zoneContextList>
  <dataModelNamespace>http://www.sifinfo.org/infrastructure/2.x</dataModelNamespace>
  <dataModelVersionMin>2.1</dataModelVersionMin>
  <dataModelVersionMax>2.8</dataModelVersionMax>
  <privacyObligationsDocument>
    <technicalRequirements>
      <securityTechnologyList>
        <securityTechnology>
          <technologyName>SSL</technologyName>
          <!-- do we really need this here? <purpose/>-->
          <technologyDescription />
          <referenceURL />
        </securityTechnology>
      </securityTechnologyList>
    </technicalRequirements>
  </privacyObligationsDocument>
</privacy>

```

```
</privacyList>
</pod>
```

Example 3.2.1-1: pod

3.3 Request

3.3.1 deleteRequest

A "deleteRequest" element, which consists of multiple, "delete" object ids. Since REST conventions do not support payloads on HTTP DELETE messages, all multi-object Delete Requests are conveyed via an HTTP PUT message containing an additional HTTP Header Field value of methodOverride set to DELETE.

SIF\_Events are not reported for this object.



Figure 3.3.1-1: deleteRequest

Element/@Attribute	Char	Privacy Rating	Description	Type
deleteRequest			A "deleteRequest" element, which consists of multiple, "delete" object ids. Since REST conventions do not support payloads on HTTP DELETE messages, all multi-object Delete Requests are conveyed via an HTTP PUT message containing an additional HTTP Header Field value of methodOverride set to DELETE.	
deletes	M			deleteIdCollectionType

Table 3.3.1-1: deleteRequest

JSON

```
[
  {
    "deleteRequest": {
      "deletes": {
        "delete": [
          {
            "id": "df789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "value": ""
          },
          {
            "id": "abc89e1c-34e7-4cde-908a-d9abc81ea09a",
            "value": ""
          },
          {
            "id": "ff789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "value": ""
          }
        ]
      }
    }
  }
]
```

XML

```
<deleteRequest>
  <deletes>
    <delete id="df789e1c-dfe7-4c18-8ef0-d907b81ea61e" />
    <delete id="abc89e1c-34e7-4cde-908a-d9abc81ea09a" />
    <delete id="ff789e1c-dfe7-4c18-8ef0-d907b81ea61e" />
  </deletes>
</deleteRequest>
```

Example 3.3.1-1: deleteRequest

3.4 Response

3.4.1 adminDirective

Admin Directives, empowers endpoint providers to “inform” or “direct” endpoint consumers what needs to happen. This opens the possibility to prompt the resending of data, expose what objects have been updated, initiate functional services etc. Some common use-cases and details on Admin Directive functionality can be found on the respective Admin Directives section.

SIF\_Events are reported for this object.

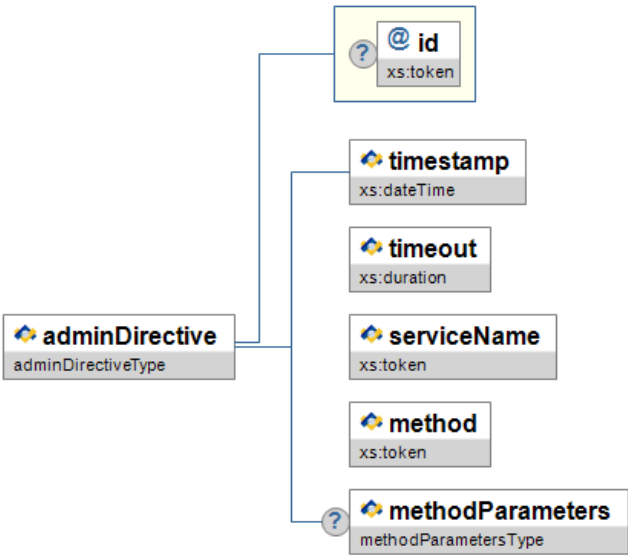


Figure 3.4.1-1: adminDirective

Element/@Attribute	Char	Privacy Rating	Description	Type
adminDirective			Admin Directives, empowers endpoint providers to “inform” or “direct” endpoint consumers what needs to happen. This opens the possibility to prompt the resending of data, expose what objects have been updated, initiate functional services etc. Some common use-cases and details on Admin Directive functionality can be found on the respective Admin Directives section.	
@ id	O			xs:token
timestamp	M		Timestamp when request was issued.	xs:dateTime
timeout	M		When should the request expire if not fulfilled.	xs:duration
serviceName	M		The name of the Service. For utilities, this is fixed to one of the defined set of Utility Service Names. For objects and functions, it is defined by the Data Model.	xs:token
method	M		Unique ID/Name or requested method.	xs:token
methodParameters	O nillable="false"			methodParametersType

Table 3.4.1-1: adminDirective

JSON

```
[
  {
    "adminDirective": {
      "id": "a8c3c3e3-4b35-9d75-101d-00aa001a1652",
      "timestamp": "2021-06-18T01:04:42.283Z",
      "timeout": "P2D",
      "serviceName": "StudentPersonals",
      "method": "Update",
      "methodParameters": {
        "methodParameter": [
          {
            "paramName": "RefId",
            "paramValue": "5b72f2d4-7a83-4297-a71f-8b5fb26cbf14"
          },
          {
            "paramName": "RefId",
            "paramValue": "41d38fa-3b57-488b-ac8b-5fd957e592f8"
          },
          {
            "paramName": "RefId",
            "paramValue": "f4039cfb-6343-40df-837a-b993b7db6632"
          }
        ]
      }
    }
  }
]
```

## XML

```
<adminDirective id="a8c3c3e3-4b35-9d75-101d-00aa001a1652">
  <timestamp>2021-06-18T01:04:42.283Z</timestamp>
  <timeout>P2D</timeout>
  <serviceName>StudentPersonals</serviceName>
  <method>Update</method>
  <methodParameters>
    <methodParameter>
      <paramName>RefId</paramName>
      <paramValue>5b72f2d4-7a83-4297-a71f-8b5fb26cbf14</paramValue>
    </methodParameter>
    <methodParameter>
      <paramName>RefId</paramName>
      <paramValue>41d38fa-3b57-488b-ac8b-5fd957e592f8</paramValue>
    </methodParameter>
    <methodParameter>
      <paramName>RefId</paramName>
      <paramValue>f4039cfb-6343-40df-837a-b993b7db6632</paramValue>
    </methodParameter>
  </methodParameters>
</adminDirective>
```

Example 3.4.1-1: adminDirective

## JSON

```
[
  {
    "adminDirective": {
      "id": "a8c3c3e3-4b35-9d75-101d-00aa001a1652",
      "timestamp": "2021-06-18T01:04:42.283Z",
      "timeout": "P2D",
      "serviceName": "StudentPersonals",
      "method": "Refresh",
      "methodParameters": {
        "methodParameter": [
          {
            "paramName": "RefId",
            "paramValue": "5b72f2d4-7a83-4297-a71f-8b5fb26cbf14",
            "comparisonType": "EQUAL"
          },
          {
            "paramName": "DOB:Year",
            "paramValue": "2010",
            "comparisonType": "GREATER"
          },
          {
            "paramName": "RequireIsolation",
            "paramValue": "TRUE"
          }
        ]
      }
    }
  }
]
```

## XML

```
<adminDirective id="a8c3c3e3-4b35-9d75-101d-00aa001a1652">
  <timestamp>2021-06-18T01:04:42.283Z</timestamp>
  <!-- Mandatory: timestamp when request was issued. ISO 8601-->
  <timeout>P2D</timeout>
  <!-- Mandatory: When should the request expire if not fulfilled. e.g 2 days -->
  <serviceName>StudentPersonals</serviceName>
  <method>Refresh</method>
  <!-- Mandatory: Unique ID/Name or requested method -->
  <methodParameters>
    <!-- Optional: parameters applicable for the specific admin request. -->
    <methodParameter>
      <paramName>RefId</paramName>
      <paramValue>5b72f2d4-7a83-4297-a71f-8b5fb26cbf14</paramValue>
      <comparisonType>EQUAL</comparisonType>
      <!-- optional: If not provided EQUAL is assumed -->
    </methodParameter>
    <methodParameter>
      <paramName>DOB:Year</paramName>
      <paramValue>2010</paramValue>
      <comparisonType>GREATER</comparisonType>
    </methodParameter>
    <methodParameter>
      <paramName>RequireIsolation</paramName>
      <paramValue>TRUE</paramValue>
    </methodParameter>
  </methodParameters>
</adminDirective>
```

Example 3.4.1-2: adminDirective2

3.4.2 createResponse

An HTTP Response with a status of 200 and a payload consisting of a single "createResponse" element. This includes, for each requested object successfully created, an internal status of 201 and the service-assigned refid. Any requested object that failed to be created is indicated by an error statusCode and a corresponding error payload.

SIF\_Events are not reported for this object.

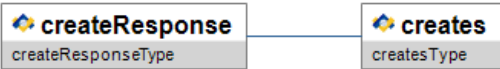


Figure 3.4.2-1: createResponse

Element/@Attribute	Char	Privacy Rating	Description	Type
createResponse			An HTTP Response with a status of 200 and a payload consisting of a single "createResponse" element. This includes, for each requested object successfully created, an internal status of 201 and the service-assigned refid. Any requested object that failed to be created is indicated by an error statusCode and a corresponding error payload.	
creates	M			createsType

Table 3.4.2-1: createResponse

JSON

```
[
  {
    "createResponse": {
      "creates": {
        "create": [
          {
            "id": "df789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "advisoryId": "3",
            "statusCode": "201",
            "value": ""
          },
          {
            "advisoryId": "1",
            "statusCode": "409",
            "error": {
              "id": "6f789e1c-dfe7-4c18-8ef0-d907b81ea61e",
              "code": 409,
              "scope": "StateConflict",
              "message": "Student already exists!"
            }
          },
          {
            "id": "ff789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "advisoryId": "2",
            "statusCode": "201",
            "value": ""
          }
        ]
      }
    }
  }
]
```

## XML

```
<createResponse>
  <creates>
    <create id="df789e1c-dfe7-4c18-8ef0-d907b81ea61e" advisoryId="3" statusCode="201" />
    <create advisoryId="1" statusCode="409">
      <error id="6f789e1c-dfe7-4c18-8ef0-d907b81ea61e">
        <code>409</code>
        <scope>StateConflict</scope>
        <message>Student already exists!</message>
      </error>
    </create>
    <create id="ff789e1c-dfe7-4c18-8ef0-d907b81ea61e" advisoryId="2" statusCode="201" />
  </creates>
</createResponse>
```

Example 3.4.2-1: createResponse

## JSON

```
[
  {
    "createResponse": {
      "creates": {
        "create": [
          {
            "id": "164da5d9bcbf4cf8a058ba0b0efde9ba",
            "advisoryId": "164da5d9bcbf4cf8a058ba0b0efde9ba",
            "statusCode": "404",
            "error": {
              "id": "ebd279f5-fd40-4f1a-80c1-894b922df670",
              "code": 400,
              "scope": "create student",
              "message": "Data not good."
            }
          },
          {
            "id": "24ed508e1ed04bba82198233efa55859",
            "advisoryId": "24ed508e1ed04bba82198233efa55859",
            "statusCode": "201",
            "value": ""
          },
          {
            "id": "2ae2d4a3a3c04d77ad843b73adac7747",
            "advisoryId": "2ae2d4a3a3c04d77ad843b73adac7747",
            "statusCode": "201",
            "value": ""
          },
          {
            "id": "2bc9ff83dbbe44e596da64b7271ec25e",
            "advisoryId": "2bc9ff83dbbe44e596da64b7271ec25e",
            "statusCode": "404",
            "error": {
              "id": "db54c074-7b63-4898-9311-8b14113d1536",
              "code": 400,
              "scope": "create student",
              "message": "Data not good."
            }
          },
          {
            "id": "399f1200f6034d8fbda72a81b634639",
            "advisoryId": "399f1200f6034d8fbda72a81b634639",
            "statusCode": "201",
            "value": ""
          }
        ]
      }
    }
  ]
}
```

## XML

```
<createResponse>
  <creates>
    <create id="164da5d9bcbf4cf8a058ba0b0efde9ba" advisoryId="164da5d9bcbf4cf8a058ba0b0efde9ba" statusCode="404">
      <error id="ebd279f5-fd40-4f1a-80c1-894b922df670">
        <code>400</code>
        <scope>create student</scope>
        <message>Data not good.</message>
      </error>
    </create>
    <create id="24ed508e1ed04bba82198233efa55859" advisoryId="24ed508e1ed04bba82198233efa55859" statusCode="201" />
    <create id="2ae2d4a3a3c04d77ad843b73adac7747" advisoryId="2ae2d4a3a3c04d77ad843b73adac7747" statusCode="201" />
    <create id="2bc9ff83dbbe44e596da64b7271ec25e" advisoryId="2bc9ff83dbbe44e596da64b7271ec25e" statusCode="404">
      <error id="db54c074-7b63-4898-9311-8b14113d1536">
        <code>400</code>
        <scope>create student</scope>
        <message>Data not good.</message>
      </error>
    </create>
    <create id="399f1200f6034d8fbda72a81b634639" advisoryId="399f1200f6034d8fbda72a81b634639" statusCode="201" />
  </creates>
</createResponse>
```

Example 3.4.2-2: createResponse2

## 3.4.3 deleteResponse

An HTTP Response with a status of 200 (success). It contains a payload consisting of a single "deleteResponse" element.

SIF\_Events are not reported for this object.



Figure 3.4.3-1: deleteResponse

Element/@Attribute	Char	Privacy Rating	Description	Type
deleteResponse			An HTTP Response with a status of 200 (success). It contains a payload consisting of a single "deleteResponse" element.	
deletes	M			deleteStatusCollectionType

Table 3.4.3-1: deleteResponse

JSON

```
[
  {
    "deleteResponse": {
      "deletes": {
        "delete": [
          {
            "id": "df789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "statusCode": "200",
            "value": ""
          },
          {
            "id": "abc89e1c-34e7-4cde-908a-d9abc81ea09a",
            "statusCode": "404",
            "error": {
              "id": "6f789e1c-dfe7-4c18-8ef0-d907b81ea61e",
              "code": 404,
              "scope": "Not Found",
              "message": "Student does not exist!"
            }
          },
          {
            "id": "ff789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "statusCode": "200",
            "value": ""
          }
        ]
      }
    }
  }
]
```

XML

```
<deleteResponse>
  <deletes>
    <delete id="df789e1c-dfe7-4c18-8ef0-d907b81ea61e" statusCode="200" />
    <delete id="abc89e1c-34e7-4cde-908a-d9abc81ea09a" statusCode="404">
      <error id="6f789e1c-dfe7-4c18-8ef0-d907b81ea61e">
        <code>404</code>
        <scope>Not Found</scope>
        <message>Student does not exist!</message>
      </error>
    </delete>
    <delete id="ff789e1c-dfe7-4c18-8ef0-d907b81ea61e" statusCode="200" />
  </deletes>
</deleteResponse>
```

Example 3.4.3-1: deleteResponse

3.4.4 error

SIF\_Events are reported for this object.



Figure 3.4.4-1: error

Element/@Attribute	Char	Privacy Rating	Description	Type
error				Extension of errorCommonType
@ id	O			xs:token



Element/@Attribute	Char	Privacy Rating	Description	Type
code	M		Corresponds to the value contained in the HTTPS Header Status-Code" field in which the Error Object is the payload.	xs:unsignedInt
scope	M		Attempted operation. Ex: "Modify Student"	xs:string
type	O		Indicator if the error relates to infrastructure or data.	errorTypeType values: INFRASTRUCTURE DATA
subCode	O		Machine readable second code used to eliminate ambiguity.	xs:string
message	M		A simple, easy to understand, compact description of the error. The primary consumer of this message is the application user. Example: "Unable to open database."	xs:string
description	O nillable="false"		An optional error description that is more complete and technical in nature. It is to be used as a diagnostic message in trouble-shooting procedures. Example: "The 'Students' table is opened in exclusive mode by user 'ADM1' (dbm.cpp, line 300)."	xs:string
errorDetails	O			errorDetailsType

Table 3.4.4-1: error

JSON

```
[
  {
    "error": {
      "id": "E6011A0E-FBFD-4DD4-B361-6235E00250FC",
      "code": 503,
      "scope": "Modify Student",
      "message": "Unable to open database.",
      "description": "The 'Students' table is opened in exclusive mode by user 'ADM1' (dbm.cpp, line 300)."
```

XML

```
<error id="E6011A0E-FBFD-4DD4-B361-6235E00250FC">
  <code>503</code>
  <scope>Modify Student</scope>
  <message>Unable to open database.</message>
  <description>The 'Students' table is opened in exclusive mode by user 'ADM1' (dbm.cpp, line 300).</description>
</error>
```

Example 3.4.4-1: error

JSON

```
[
  {
    "error": {
      "id": "5b72f2d4-7a83-4297-a71f-8b5fb26cbf14",
      "code": 410,
      "scope": "Provider",
      "type": "INFRASTRUCTURE",
      "subCode": "001",
      "message": "Gone",
      "description": "The provided HTTP header dataPrivacyMarker is no longer valid.",
      "errorDetails": {
        "errorDetail": [
          {
            "id": "89209C52-E5C4-416F-BBAF-974D09AA79F4",
            "type": "INFRASTRUCTURE",
            "subCode": "001",
            "message": "Invalid dataPrivacyMarker",
            "description": "The provided HTTP header dataPrivacyMarker is no longer valid."
          },
          {
            "id": "0394E69C-4A73-4755-9C92-A64FA7F16AB8",
            "type": "INFRASTRUCTURE",
            "subCode": "002",
            "message": "Invalid changesSinceMarker",
            "description": "The provided URL Query parameter changesSinceMarker is no longer valid."
          },
          {
            "id": "E608CFE3-7ACC-4A69-9634-32F899377F80",
            "type": "DATA",
            "subCode": "2001",
            "message": "Invalid birthdate",
            "description": "The student's birthdate is a future date."
          },
          {
            "id": "39B434FB-42F3-4FAA-9163-ED25801C7F9A",
            "type": "DATA",
            "subCode": "2017",
            "message": "Already Enrolled",
            "description": "The student is already enrolled at another school"
          }
        ]
      }
    }
  }
]
```

## XML

```
<error id="5b72f2d4-7a83-4297-a71f-8b5fb26cbf14">
  <code>410</code>
  <scope>Provider</scope>
  <type>INFRASTRUCTURE</type>
  <!-- NEW -->
  <subCode>001</subCode>
  <!-- NEW -->
  <message>Gone</message>
  <description>The provided HTTP header dataPrivacyMarker is no longer valid.</description>
  <errorDetails>
    <!-- EXTENSION: NEW and optional -->
    <errorDetail id="89209C52-E5C4-416F-BBAF-974D09AA79F4">
      <type>INFRASTRUCTURE</type>
      <!-- NEW -->
      <subCode>001</subCode>
      <!-- NEW -->
      <message>Invalid dataPrivacyMarker</message>
      <description>The provided HTTP header dataPrivacyMarker is no longer valid.</description>
    </errorDetail>
    <errorDetail id="0394E69C-4A73-4755-9C92-A64FA7F16AB8">
      <type>INFRASTRUCTURE</type>
      <!-- NEW -->
      <subCode>002</subCode>
      <!-- NEW -->
      <message>Invalid changesSinceMarker</message>
      <description>The provided URL Query parameter changesSinceMarker is no longer valid.</description>
    </errorDetail>
    <errorDetail id="E608CFE3-7ACC-4A69-9634-32F899377F80">
      <type>DATA</type>
      <!-- NEW -->
      <subCode>2001</subCode>
      <!-- NEW -->
      <message>Invalid birthdate</message>
      <description>The student's birthdate is a future date.</description>
    </errorDetail>
    <errorDetail id="39B434FB-42F3-4FAA-9163-ED25801C7F9A">
      <type>DATA</type>
      <!-- NEW -->
      <subCode>2017</subCode>
      <!-- NEW -->
      <message>Already Enrolled</message>
      <description>The student is already enrolled at another school</description>
    </errorDetail>
  </errorDetails>
</error>
```

Example 3.4.4-2: error2

## 3.4.5 updateResponse

An HTTP Response with a status of 200 (success) and a location corresponding to the URL of the first successfully modified object. It contains a payload consisting of a single "updateResponse" element.

SIF\_Events are not reported for this object.

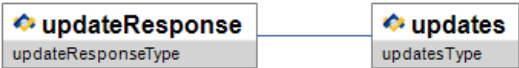


Figure 3.4.5-1: updateResponse

Element/@Attribute	Char	Privacy Rating	Description	Type
updateResponse			An HTTP Response with a status of 200 (success) and a location corresponding to the URL of the first successfully modified object. It contains a payload consisting of a single "updateResponse" element.	
updates	M			updatesType

Table 3.4.5-1: updateResponse

JSON

```
[
  {
    "updateResponse": {
      "updates": {
        "update": [
          {
            "id": "df789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "statusCode": "200",
            "value": ""
          },
          {
            "id": "41953aaa-2811-11e6-b67b-9e71128cae77",
            "statusCode": "404",
            "error": {
              "id": "6f789e1c-dfe7-4c18-8ef0-d907b81ea61e",
              "code": 404,
              "scope": "Not Found",
              "message": "Student does not exist!"
            }
          },
          {
            "id": "ff789e1c-dfe7-4c18-8ef0-d907b81ea61e",
            "statusCode": "200",
            "value": ""
          }
        ]
      }
    }
  }
]
```

XML

```
<updateResponse>
  <updates>
    <update id="df789e1c-dfe7-4c18-8ef0-d907b81ea61e" statusCode="200" />
    <update id="41953aaa-2811-11e6-b67b-9e71128cae77" statusCode="404">
      <error id="6f789e1c-dfe7-4c18-8ef0-d907b81ea61e">
        <code>404</code>
        <scope>Not Found</scope>
        <message>Student does not exist!</message>
      </error>
    </update>
    <update id="ff789e1c-dfe7-4c18-8ef0-d907b81ea61e" statusCode="200" />
  </updates>
</updateResponse>
```

Example 3.4.5-1: updateResponse

JSON

```
{
  "updateResponse": {
    "updates": {
      "update": [
        {
          "id": "164da5d9bcbf4cf8a058ba0b0efde9ba",
          "statusCode": "404",
          "error": {
            "id": "7ab3ce5f-23ba-44d4-8668-3b220603b954",
            "code": 404,
            "scope": "Student Not Found",
            "message": "Student with GUID = 164da5d9bcbf4cf8a058ba0b0efde9ba does not exist."
          }
        },
        {
          "id": "24ed508e1ed04bba82198233efa55859",
          "statusCode": "200",
          "value": ""
        },
        {
          "id": "2ae2d4a3a3c04d77ad843b73adac7747",
          "statusCode": "200",
          "value": ""
        },
        {
          "id": "2bc9ff83dbbe44e596da64b7271ec25e",
          "statusCode": "404",
          "error": {
            "id": "1e982133-7a67-4955-bb57-4d3b0853d64b",
            "code": 404,
            "scope": "Student Not Found",
            "message": "Student with GUID = 2bc9ff83dbbe44e596da64b7271ec25e does not exist."
          }
        },
        {
          "id": "399f1200f6034d8fbda72a81b634639",
          "statusCode": "200",
          "value": ""
        }
      ]
    }
  }
}
```

## XML

```
<updateResponse>
  <updates>
    <update id="164da5d9bcbf4cf8a058ba0b0efde9ba" statusCode="404">
      <error id="7ab3ce5f-23ba-44d4-8668-3b220603b954">
        <code>404</code>
        <scope>Student Not Found</scope>
        <message>Student with GUID = 164da5d9bcbf4cf8a058ba0b0efde9ba does not exist.</message>
      </error>
    </update>
    <update id="24ed508e1ed04bba82198233efa55859" statusCode="200" />
    <update id="2ae2d4a3a3c04d77ad843b73adac7747" statusCode="200" />
    <update id="2bc9ff83dbbe44e596da64b7271ec25e" statusCode="404">
      <error id="1e982133-7a67-4955-bb57-4d3b0853d64b">
        <code>404</code>
        <scope>Student Not Found</scope>
        <message>Student with GUID = 2bc9ff83dbbe44e596da64b7271ec25e does not exist.</message>
      </error>
    </update>
    <update id="399f1200f6034d8fbda72a81b634639" statusCode="200" />
  </updates>
</updateResponse>
```

Example 3.4.5-2: updateResponse2

## 3.5 SIF Infrastructure Services

### 3.5.1 environment

The Consumer Environment Service is the gateway to all other services. It scopes the Consumer's possible interactions with the infrastructure and any Provider Services accessible from it. The Environment Service provides the set of (possibly customized) information the Application needs to interoperate successfully.

SIF\_Events are not reported for this object.

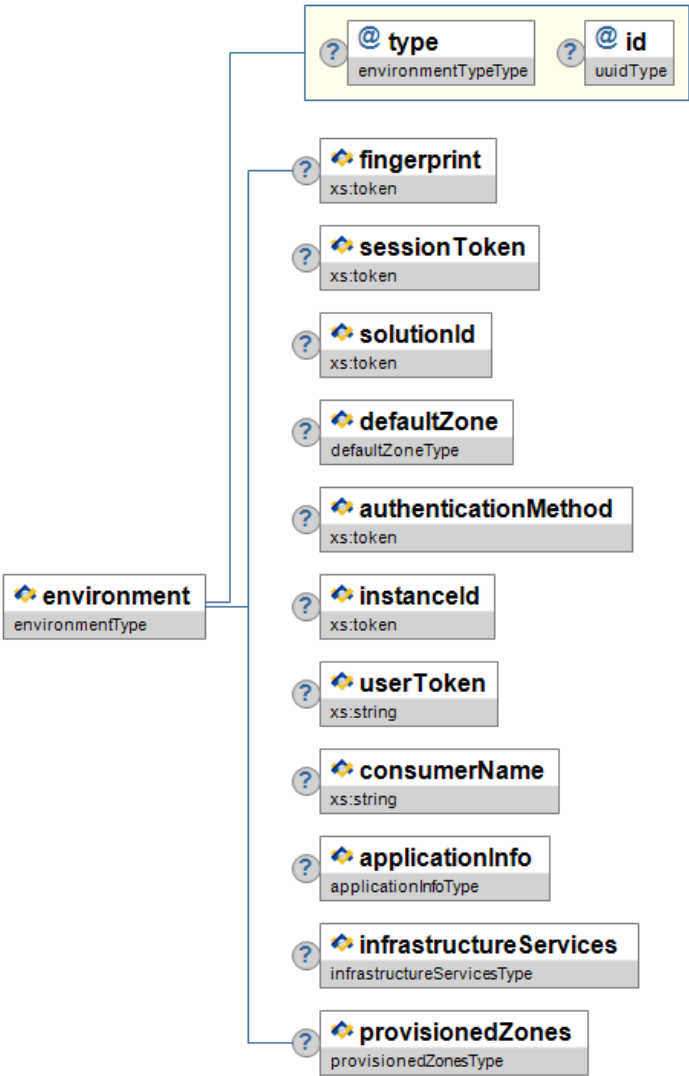


Figure 3.5.1-1: environment

Element/@Attribute	Char	Privacy Rating	Description	Type
environment			The Consumer Environment Service is the gateway to all other services. It scopes the Consumer's possible interactions with the infrastructure and any Provider Services accessible from it. The Environment Service provides the set of (possibly customized) information the Application needs to interoperate successfully.	
@ type	O			environmentTypeType values: DIRECT BROKERED
@ id	O			uuidType
fingerprint	O nillable="false"		Unique environment identifier that can be safely shared with others. In order to not compromise security it MUST NOT match the environment's refId, sessionToken, userToken, or applicationKey.	xs:token
sessionToken	O nillable="false"			xs:token

Element/@Attribute	Char	Privacy Rating	Description	Type
solutionId	O nillable="false"		The solution the Application would like to participate in. This is optional only, is advisory, and may be ignored by the Administrator. If processed it may be reflected in the URLs of the infrastructure services which are provided in the consumerEnvironment.	xs:token
defaultZone	O nillable="false"			defaultZoneType
authenticationMethod	O nillable="false"		Defines the way in which the applicationKey can be used to enforce security.	xs:token
instanceId	O nillable="false"			xs:token
userToken	O nillable="false"			xs:string
consumerName	O nillable="false"		A descriptive name for the application that will be readily identifiable to Zone Administrators if it becomes a Registered Consumer	xs:string
applicationInfo	O nillable="false"			applicationInfoType
infrastructureServices	O nillable="false"			infrastructureServicesType
provisionedZones	O nillable="false"			provisionedZonesType

Table 3.5.1-1: environment

## JSON

```
[
  {
    "environment": {
      "type": "DIRECT",
      "id": "B5Fd5DfB-ca3b-162a-5657-dDf31E32cE92",
      "fingerprint": "f5688c40-97d2-11e6-ae22-56b6b6499611",
      "sessionToken": "a579ff69-0148-1000-007f-14109fdcaf83",
      "solutionId": "production",
      "defaultZone": {
        "id": "District",
        "description": "The zone for the local school district.",
        "properties": {
          "property": [
            {
              "name": "email",
              "value": "john.smith@district.k12.wa.us"
            },
            {
              "name": "phone",
              "value": "(360)555-1234"
            }
          ]
        }
      }
    },
    "authenticationMethod": "SIF_HMACSHA256",
    "instanceId": "1",
    "userToken": "MmZkMjVmODItYjAxMC00NTFiLWJfZTetNmRjNTI4MmYwZjd1OmhpdmHNAbnNpCA==",
    "consumerName": "Example Consumer",
    "applicationInfo": {
      "applicationKey": "Example",
      "supportedInfrastructureVersion": "3.1",
      "dataModelNamespace": "http://www.sifassociation.org/datamodel/na/3.3",
      "transport": "REST",
      "applicationProduct": {
        "vendorName": "SIF Association",
        "productName": "Fingertips Classroom App",
        "productVersion": "1.0.4",
        "iconURI": "https://www.sifassociation.org/PublishingImages/SIF%20Assoc%20symbol_LARGE.png"
      }
    },
    "infrastructureServices": {
      "infrastructureService": [
        {
          "name": "environment",
          "value": "https://testharness.sifassociation.org/SIFConnector/AdaptorServer/0f21cf0b-014c-1000-007f-00505686707f/environment/0f21cf0b-014c-1000-007f005056867"
        },
        {
          "name": "requestsConnector",
          "value": "https://testharness.sifassociation.org/SIFConnector/AdaptorServer/0f21cf0b-014c-1000-007f-00505686707f/requests"
        }
      ]
    },
    "provisionedZones": {
      "provisionedZone": [
        {
          "id": "District",
          "services": {
            "service": [
              {
                "name": "students",
                "contextId": "DEFAULT",
                "type": "OBJECT",
                "rights": {
                  "right": [
                    {
                      "type": "QUERY",
                      "value": "APPROVED"
                    }
                  ]
                }
              }
            ]
          },
          {
            "name": "sections",
            "contextId": "DEFAULT",
            "type": "OBJECT",
            "rights": {
              "right": [
                {
                  "type": "QUERY",
                  "value": "APPROVED"
                }
              ]
            }
          }
        ]
      ]
    }
  ]
}
```

XML

```

<environment type="DIRECT" id="B5Fd5Df8-ca3b-162a-5657-dDf31E32cE92">
  <fingerprint>f5688c40-97d2-11e6-ae22-56b6b6499611</fingerprint>
  <sessionToken>a579ff69-0148-1000-007f-14109fdcaf83</sessionToken>
  <solutionId>production</solutionId>
  <defaultZone id="District">
    <description>The zone for the local school district.</description>
    <properties>
      <property name="email">john.smith@district.k12.wa.us</property>
      <property name="phone">(360)555-1234</property>
    </properties>
  </defaultZone>
  <authenticationMethod>SIF_HMACSHA256</authenticationMethod>
  <instanceId>1</instanceId>
  <userToken>MmZkMjVmQDItYjAxMC00NTFiLWJZTtNmRjNTI4MmYwZjd1OmhpdmhNbnNpcA==</userToken>
  <consumerName>Example Consumer</consumerName>
  <applicationInfo>
    <applicationKey>Example</applicationKey>
    <supportedInfrastructureVersion>3.1</supportedInfrastructureVersion>
    <dataModelNamespace>http://www.sifassociation.org/datamodel/na/3.3</dataModelNamespace>
    <transport>REST</transport>
    <applicationProduct>
      <vendorName>SIF Association</vendorName>
      <productName>Fingertips Classroom App</productName>
      <productVersion>1.0.4</productVersion>
      <iconURI>https://www.sifassociation.org/PublishingImages/SIF%20Assoc%20symbol_LARGE.png </iconURI>
    </applicationProduct>
  </applicationInfo>
  <infrastructureServices>
    <infrastructureService name="environment">https://testharness.sifassociation.org/SIFConnector/AdaptorServer/0f21cf0b-014c-1000-007f-00505686707f/environment/0f21cf0b
    <infrastructureService name="requestsConnector">https://testharness.sifassociation.org/SIFConnector/AdaptorServer/0f21cf0b-014c-1000-007f-00505686707f/requests</infrastructureService>
  </infrastructureServices>
  <provisionedZones>
    <provisionedZone id="District">
      <services>
        <service name="students" contextId="DEFAULT" type="OBJECT">
          <rights>
            <right type="QUERY">APPROVED</right>
          </rights>
        </service>
        <service name="sections" contextId="DEFAULT" type="OBJECT">
          <rights>
            <right type="QUERY">APPROVED</right>
          </rights>
        </service>
      </services>
    </provisionedZone>
  </provisionedZones>
</environment>

```

Example 3.5.1-1: environment

### 3.5.2 job

All functional services must use this object design to track state. While Events may be published back to the objects creator, they must not be published to the Consumer when the event was generated based on its request (since results were included in the response). Each functional service should define the expectations of how management of the job is managed for both the Consumer and Provider. For instance, certain optional fields may need to be included in-order-to successfully cause a job to be created.

SIF\_Events are reported for this object.



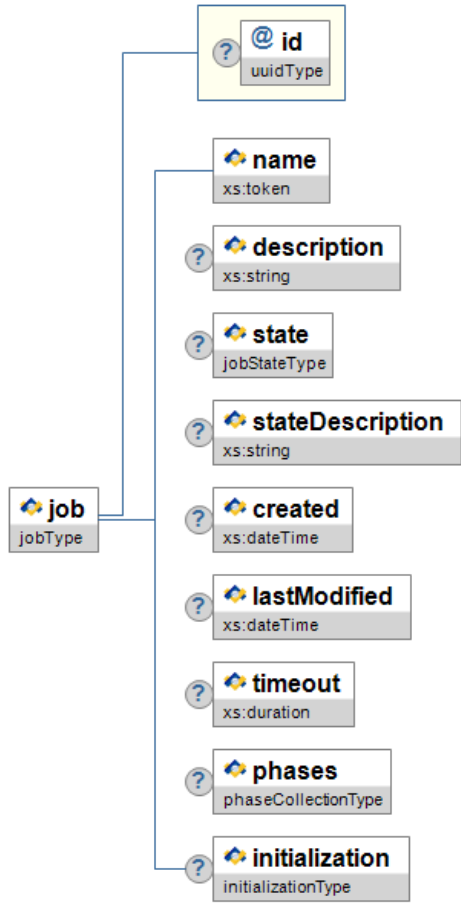


Figure 3.5.2-1: job

Element/@Attribute	Char	Privacy Rating	Description	Type
job			All functional services must use this object design to track state. While Events may be published back to the objects creator, they must not be published to the Consumer when the event was generated based on its request (since results were included in the response). Each functional service should define the expectations of how management of the job is managed for both the Consumer and Provider. For instance, certain optional fields may need to be included in-order-to successfully cause a job to be created.	
@ id	O			uuidType
name	M		The name of the job, e.g. "grading" or "sre".	xs:token
description	O nillable="false"		A description of the job, e.g. "Bowers Elementary School Final Marks"	xs:string
state	O nillable="false"		The current enumerable state of the job.	jobStateType values: NOTSTARTED INPROGRESS COMPLETED FAILED
stateDescription	O nillable="false"		A descriptive message elaborating on the current state, e.g. if the current state is "FAILED" the stateDescription may be "Timeout occurred".	xs:string

Element/@Attribute	Char	Privacy Rating	Description	Type
created	O nillable="false"		The datetime this job was created.	xs:dateTime
lastModified	O nillable="false"		The datetime this job was last modified.	xs:dateTime
timeout	O nillable="false"		The ammount of time after creation before this job is automatically deleted.	xs:duration
phases	O nillable="false"		The phases that make up this job.	phaseCollectionType
initialization	O nillable="false"			initializationType

Table 3.5.2-1: job

JSON

```
[
  {
    "job": {
      "id": "8dc59f05-4ed6-48e1-9985-f0ef27fed09d",
      "name": "rolloverStudent",
      "description": "Rollover Student from year X to year Y",
      "state": "NOTSTARTED",
      "stateDescription": "Not Started",
      "created": "2018-09-03T18:06:56.362-07:00",
      "timeout": "P300",
      "phases": {
        "phase": [
          {
            "name": "oldYearEnrolment",
            "states": {
              "state": [
                {
                  "type": "NOTSTARTED"
                }
              ]
            },
            "required": true,
            "rights": {
              "right": [
                {
                  "type": "UPDATE",
                  "value": "APPROVED"
                }
              ]
            },
            "statesRights": {
              "right": [
                {
                  "type": "QUERY",
                  "value": "APPROVED"
                },
                {
                  "type": "CREATE",
                  "value": "APPROVED"
                }
              ]
            }
          },
          {
            "name": "newYearEnrolment",
            "states": {
              "state": [
                {
                  "type": "NOTSTARTED"
                }
              ]
            },
            "required": true,
            "rights": {
              "right": [
                {
                  "type": "CREATE",
                  "value": "APPROVED"
                }
              ]
            },
            "statesRights": {
              "right": [
                {
                  "type": "QUERY",
                  "value": "APPROVED"
                },
                {
                  "type": "CREATE",
                  "value": "APPROVED"
                }
              ]
            }
          }
        ]
      }
    }
  ]
}
```

XML

```
<job id="8dc59f05-4ed6-48e1-9985-f0ef27fed09d">
  <name>rolloverStudent</name>
  <description>Rollover Student from year X to year Y</description>
  <state>NOTSTARTED</state>
  <stateDescription>Not Started</stateDescription>
  <created>2018-09-04T09:06:56.362+08:00</created>
  <timeout>P300</timeout>
  <phases>
    <phase>
      <name>oldYearEnrolment</name>
      <states>
        <state>
          <type>NOTSTARTED</type>
        </state>
      </states>
      <required>true</required>
      <rights>
        <right type="UPDATE">APPROVED</right>
      </rights>
      <statesRights>
        <right type="QUERY">APPROVED</right>
        <right type="CREATE">APPROVED</right>
      </statesRights>
    </phase>
    <phase>
      <name>newYearEnrolment</name>
      <states>
        <state>
          <type>NOTSTARTED</type>
        </state>
      </states>
      <required>true</required>
      <rights>
        <right type="CREATE">APPROVED</right>
      </rights>
      <statesRights>
        <right type="QUERY">APPROVED</right>
        <right type="CREATE">APPROVED</right>
      </statesRights>
    </phase>
  </phases>
</job>
```

Example 3.5.2-1: job

3.5.3 provisionRequest

If an Environment supports self-provisioning Consumers than either this section must initially contain all the rights the Consumer has to all Services in all Zones, or the provisionRequests Infrastructure Service must be present in the Consumer's Environment to allow additional rights to be obtained.

SIF\_Events are not reported for this object.

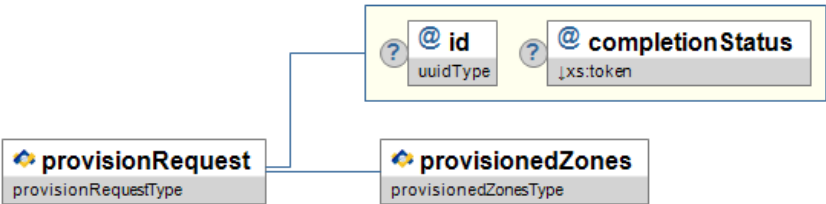


Figure 3.5.3-1: provisionRequest

Element/@Attribute	Char	Privacy Rating	Description	Type
provisionRequest			If an Environment supports self-provisioning Consumers than either this section must initially contain all the rights the Consumer has to all Services in all Zones, or the provisionRequests Infrastructure Service must be present in the Consumer's Environment to allow additional rights to be obtained.	
@ id	O	Low		uuidType
@ completionStatus	O			values: ACCEPTED MIXED REJECTED
provisionedZones	M		A specific Zone defined for this environment.	provisionedZonesType

Table 3.5.3-1: provisionRequest

## JSON

```
[
  {
    "provisionRequest": {
      "id": "D3E34B39-9D79-4019-8C39-00AA001A1659",
      "provisionedZones": {
        "provisionedZone": [
          {
            "id": "SuffolkMiddleSchool",
            "services": {
              "service": [
                {
                  "type": "OBJECT",
                  "name": "students",
                  "contextId": "DEFAULT",
                  "rights": {
                    "right": [
                      {
                        "type": "CREATE",
                        "value": "REQUESTED"
                      },
                      {
                        "type": "UPDATE",
                        "value": "REQUESTED"
                      }
                    ]
                  }
                }
              ]
            }
          }
        ]
      }
    }
  ]
```

## XML

```
<provisionRequest id="D3E34B39-9D79-4019-8C39-00AA001A1659">
  <provisionedZones>
    <provisionedZone id="SuffolkMiddleSchool">
      <services>
        <service type="OBJECT" name="students" contextId="DEFAULT">
          <rights>
            <right type="CREATE">REQUESTED</right>
            <right type="UPDATE">REQUESTED</right>
          </rights>
        </service>
      </services>
    </provisionedZone>
  </provisionedZones>
</provisionRequest>
```

Example 3.5.3-1: provisionRequest

## JSON

```
[
  {
    "provisionRequest": {
      "id": "4c7cbebc-71e6-11e9-a923-1681be663d3e",
      "completionStatus": "MIXED",
      "provisionedZones": {
        "provisionedZone": [
          {
            "id": "SuffolkMiddleSchool",
            "services": {
              "service": [
                {
                  "type": "OBJECT",
                  "name": "students",
                  "contextId": "DEFAULT",
                  "rights": {
                    "right": [
                      {
                        "type": "CREATE",
                        "value": "REJECTED"
                      },
                      {
                        "type": "UPDATE",
                        "value": "APPROVED"
                      }
                    ]
                  }
                }
              ]
            }
          }
        ]
      }
    }
  ]
```

## XML

```
<provisionRequest id="4c7cbebc-71e6-11e9-a923-1681be663d3e" completionStatus="MIXED">
  <provisionedZones>
    <provisionedZone id="SuffolkMiddleSchool">
      <services>
        <service type="OBJECT" name="students" contextId="DEFAULT">
          <rights>
            <right type="CREATE">REJECTED</right>
            <right type="UPDATE">APPROVED</right>
          </rights>
        </service>
      </services>
    </provisionedZone>
  </provisionedZones>
</provisionRequest>
```

Example 3.5.3-2: provisionRequest2

3.5.4 queue

The Queues Service supports creation, deletion and querying of Queue (Instance) / Queue Messages Service pairs.

SIF\_Events are not reported for this object.

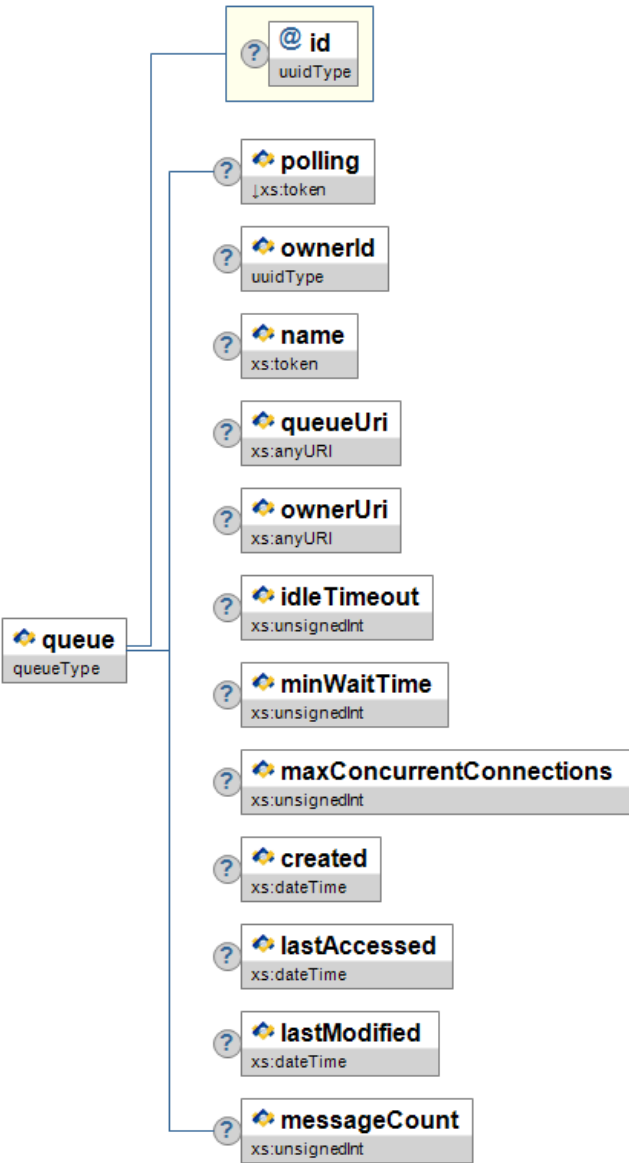


Figure 3.5.4-1: queue

Element/@Attribute	Char	Privacy Rating	Description	Type
queue			The Queues Service supports creation, deletion and querying of Queue (Instance) / Queue Messages Service pairs.	
@ key id	O			uuidType
polling	O nillable="false"		Determines, when no messages are queued, whether the Consumer will have to periodically reissue Polling Requests at timed intervals or can reissue a Polling Request immediately.	values: IMMEDIATE LONG
ownerId	C nillable="false"		The Environment ID of the owning Consumer for which this Queue is buffering messages. It is not specified at Queue create time, but is returned as part of the response to a query operation, and serves to allow an administrative application to identify which application the Queue instance is assigned to.	uuidType
name	O nillable="false"		A name which the Consumer assigns to the Queue. It is useful for reporting purposes, but is not guaranteed to be unique.	xs:token
queueUri	O nillable="false"		The URL of the Messages Service associated with the Queue instance. This is the endpoint where the 'get next message' requests are issued.	xs:anyURI
ownerUri	O nillable="false"		When present, this contains the URL which the Queue instance will use when it determines the owner needs to be asynchronously alerted that a new message has arrived in the Queue.	xs:anyURI
idleTimeout	O nillable="false"		Is the maximum time in seconds the Messages Service will wait for a message to arrive, before returning an HTTPS Response of 'no message seen' to the Consumer.	xs:unsignedInt
minWaitTime	C nillable="false"		indicates the minimum time in seconds that the Consumer should wait after receiving a 'no message seen' response to a previous query, before posting another.	xs:unsignedInt
maxConcurrentConnections	O nillable="false"		Number of (properly identified) concurrent connections supported by (the consumer, if suggested, and) the queue.	xs:unsignedInt
created	O nillable="false"		Time that Queue Instance was Created	xs:dateTime
lastAccessed	O nillable="false"		Time that Queue Instance was last Accessed and a message was dequeued.	xs:dateTime
lastModified	O nillable="false"		Time that Queue Instance was last Modified by receiving a new incoming message.	xs:dateTime

Element/@Attribute	Char	Privacy Rating	Description	Type
messageCount	O nillable="false"		The number of messages currently residing in the Queue.	xs:unsignedInt

Table 3.5.4-1: queue

JSON

```
[
  {
    "queue": {
      "id": "4c7cc042-71e6-11e9-a923-1681be663d3e",
      "polling": "IMMEDIATE",
      "name": "StudentConsumer",
      "maxConcurrentConnections": 3
    }
  }
]
```

XML

```
<queue id="4c7cc042-71e6-11e9-a923-1681be663d3e">
  <polling>IMMEDIATE</polling>
  <name>StudentConsumer</name>
  <maxConcurrentConnections>3</maxConcurrentConnections>
</queue>
```

Example 3.5.4-1: queue Request

JSON

```
[
  {
    "queue": {
      "id": "e23fce44-7871-48eb-8952-e27733f59b30",
      "polling": "IMMEDIATE",
      "ownerId": "545c31ac-85c7-4360-bd63-24d425be1532",
      "name": "StudentConsumer",
      "queueUri": "http://localhost:9080/SIF3InfraREST/sif3/queues/e23fce44-7871-48eb-8952-e27733f59b30/messages",
      "idleTimeout": 0,
      "minWaitTime": 30,
      "maxConcurrentConnections": 3,
      "created": "2019-02-06T17:09:04.421-08:00",
      "lastAccessed": "2019-02-06T17:09:04.424-08:00",
      "lastModified": "2019-02-06T17:09:04.424-08:00",
      "messageCount": 0
    }
  }
]
```

XML

```
<queue id="e23fce44-7871-48eb-8952-e27733f59b30">
  <polling>IMMEDIATE</polling>
  <ownerId>545c31ac-85c7-4360-bd63-24d425be1532</ownerId>
  <name>StudentConsumer</name>
  <queueUri>http://localhost:9080/SIF3InfraREST/sif3/queues/e23fce44-7871-48eb-8952-e27733f59b30/messages</queueUri>
  <idleTimeout>0</idleTimeout>
  <minWaitTime>30</minWaitTime>
  <maxConcurrentConnections>3</maxConcurrentConnections>
  <created>2019-02-07T09:09:04.421+08:00</created>
  <lastAccessed>2019-02-07T09:09:04.424+08:00</lastAccessed>
  <lastModified>2019-02-07T09:09:04.424+08:00</lastModified>
  <messageCount>0</messageCount>
</queue>
```

Example 3.5.4-2: queue Response

3.5.5 state

For states updatable by the Consumer, it creates a new state much like it would a single object. The actual result (state or error) is included in the response. Each functional service should define the expectations for which Adaptor is responsible for updating the phase status. NOTE: The "states" collection represented here is reserved for future capabilities.

SIF\_Events are reported for this object.



Figure 3.5.5-1: state

Element/@Attribute	Char	Privacy Rating	Description	Type
state			For states updatable by the Consumer, it creates a new state much like it would a single object. The actual result (state or error) is included in the response. Each functional service should define the expectations for which Adaptor is responsible for updating the phase status. NOTE: The "states" collection represented here is reserved for future capabilities.	Extension of stateCommonType
@ id	O			uuidType
type	M		The type of this State object.	phaseStateType values:  NOTAPPLICABLE NOTSTARTED PENDING SKIPPED INPROGRESS COMPLETED FAILED
created	O nillable="false"		The datetime this job was created.	xs:dateTime
lastModified	O nillable="false"		The datetime this job was last modified.	xs:dateTime
description	O nillable="false"		A descriptive message elaborating the condition of this state, e.g. if the state is "FAILED" the stateDescription may be "Timeout occurred".	xs:string

Table 3.5.5-1: state

JSON

```
[
  {
    "state": {
      "id": "B8A255AD-DE11-4376-BD54-EAA4C8871F59",
      "type": "COMPLETED",
      "created": "2022-07-02T13:43:57.236Z",
      "lastModified": "2022-07-02T13:43:57.236Z",
      "description": "All assessments have been scored and are finalized."
    }
  }
]
```

XML

```
<state id="B8A255AD-DE11-4376-BD54-EAA4C8871F59">
  <type>COMPLETED</type>
  <created>2022-07-02T13:43:57.236Z</created>
  <lastModified>2022-07-02T13:43:57.236Z</lastModified>
  <description>All assessments have been scored and are finalized.</description>
</state>
```

Example 3.5.5-1: state

3.5.6 subscription

A Consumer uses the Subscriptions Infrastructure Service to subscribe to Events published by one or more Service Providers.

SIF\_Events are not reported for this object.



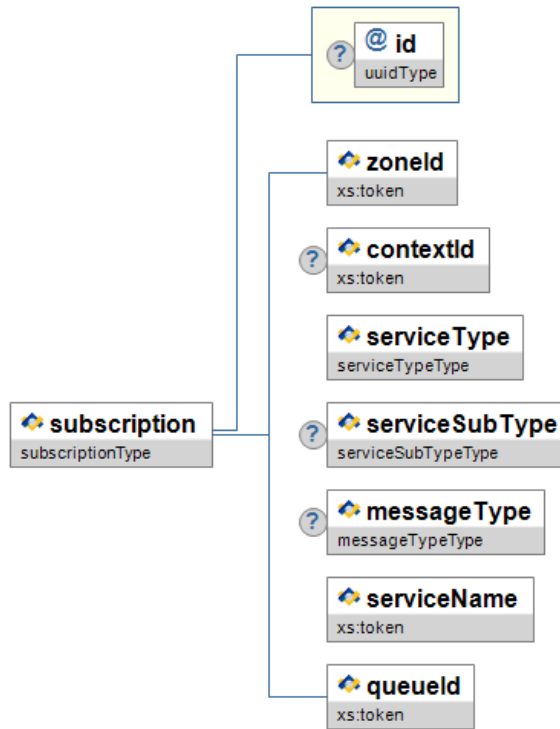


Figure 3.5.6-1: subscription

Element/@Attribute	Char	Privacy Rating	Description	Type
subscription			A Consumer uses the Subscriptions Infrastructure Service to subscribe to Events published by one or more Service Providers.	
@ id ?	O			uuidType
zoneld	M			xs:token
contextId	O nillable="false"		The unique identity of a context element, which is associated with a Provider of this name and type operating in a Zone with this ID.	xs:token
serviceType	M		The type of the service	serviceTypeType values: UTILITY OBJECT FUNCTIONAL SERVICEPATH XQUERYTEMPLATE SERVICE
serviceSubType	O		The subtype of the Service	serviceSubTypeType values: adminDirective
messageType	O		The type of the message	messageTypeType values: EVENT REQUEST
serviceName	M		The name of the Service. For utilities, this is fixed to one of the defined set of Utility Service Names. For objects and functions, it is defined by the Data Model.	xs:token
queueId	M		Specifies which queues you want data associated with this subscription published to.	xs:token

Table 3.5.6-1: subscription

## JSON

```
[
  {
    "subscription": {
      "id": "4c7cc1f0-71e6-11e9-a923-1681be663d3e",
      "zoneId": "auSchoolTestingZone",
      "contextId": "DEFAULT",
      "serviceType": "OBJECT",
      "serviceName": "StudentPersonals",
      "queueId": "e23fce44-7871-48eb-8952-e27733f59b30"
    }
  }
]
```

## XML

```
<subscription id="4c7cc1f0-71e6-11e9-a923-1681be663d3e">
  <zoneId>auSchoolTestingZone</zoneId>
  <contextId>DEFAULT</contextId>
  <serviceType>OBJECT</serviceType>
  <serviceName>StudentPersonals</serviceName>
  <queueId>e23fce44-7871-48eb-8952-e27733f59b30</queueId>
</subscription>
```

Example 3.5.6-1: subscription Create

## JSON

```
[
  {
    "subscription": {
      "id": "625124a3-1f8f-4d3a-b014-701404d94c6b",
      "zoneId": "auSchoolTestingZone",
      "contextId": "DEFAULT",
      "serviceType": "OBJECT",
      "serviceName": "StudentPersonals",
      "queueId": "e23fce44-7871-48eb-8952-e27733f59b30"
    }
  }
]
```

## XML

```
<subscription id="625124a3-1f8f-4d3a-b014-701404d94c6b">
  <zoneId>auSchoolTestingZone</zoneId>
  <contextId>DEFAULT</contextId>
  <serviceType>OBJECT</serviceType>
  <serviceName>StudentPersonals</serviceName>
  <queueId>e23fce44-7871-48eb-8952-e27733f59b30</queueId>
</subscription>
```

Example 3.5.6-2: subscription Create Response

## 3.6 Utility Services

### 3.6.1 alert

Alerts form a system wide log that can be protected, as it may contain sensitive data. Ideally an Alert should contain as much identifying information about the problem being reported as possible.

SIF\_Events are not reported for this object.

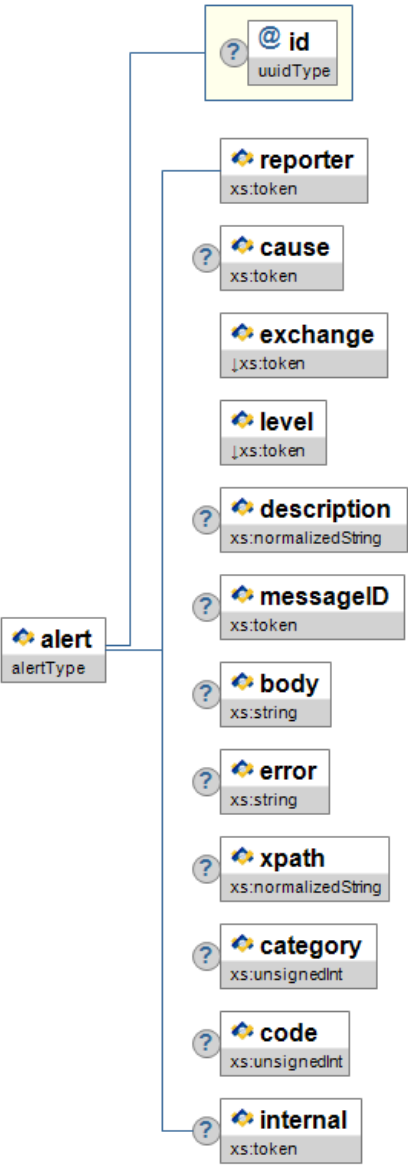


Figure 3.6.1-1: alert

Element/@Attribute	Char	Privacy Rating	Description	Type
alert			Alerts form a system wide log that can be protected, as it may contain sensitive data. Ideally an Alert should contain as much identifying information about the problem being reported as possible.	
@ id	O			uuidType
reporter	M		External identification of the Application (Consumer or Provider) reporting this Alert.	xs:token
cause	O nillable="false"		External identification of the cause of the Alert.	xs:token
exchange	M		The exchange (or lack of exchange) responsible for generating the Alert.	values: REQUEST RESPONSE EVENT TIMEOUT OTHER

Element/@Attribute	Char	Privacy Rating	Description	Type
level	M		The level of the Alert.	values: INFO STATECHANGE EVENT WARNING ERROR
description	O nillable="false"		A description of the reason for the Alert.	xs:normalizedString
messageID	C nillable="false"		If available, the ID of the Message causing the problem.	xs:token
body	O nillable="false"		The internals of the offending message or a more complete description of the information or state change. Usage of the CDATA designation is recommended in order to make the XML contents more readable to humans.	xs:string
error	O nillable="false"		Detailed error results such as a stack trace.	xs:string
xpath	O nillable="false"		An indicator of the specific element that was in error (or contributed to the problem. [NEEDS TO BE CHANGED TO the SIF XPATH TYPE]	xs:normalizedString
category	C nillable="false"		If the Alert Level is an error, this value must be the SIF 3.0.1 Error Category corresponding to the type of Error being reported	xs:unsignedInt
code	C nillable="false"		If the Alert Level is an error, this value must be the SIF 3.0.1 Error Code corresponding to the type of Error being reported.	xs:unsignedInt
internal	O nillable="false"		Code internal to the reporter.	xs:token

Table 3.6.1-1: alert

JSON

```
[
  {
    "alert": {
      "id": "d0b128e9-fcec-48e9-8ad7-206ded2ddd7f",
      "reporter": "LovellSIS",
      "cause": "KleinmanLMS",
      "exchange": "REQUEST",
      "level": "WARNING",
      "description": "Unable to query assessment scores.",
      "messageID": "24083F7F-6AB0-4912-B7AA-34C05540E2FA"
    }
  }
]
```

XML

```
<alert id="d0b128e9-fcec-48e9-8ad7-206ded2ddd7f">
  <reporter>LovellSIS</reporter>
  <cause>KleinmanLMS</cause>
  <exchange>REQUEST</exchange>
  <level>WARNING</level>
  <description>Unable to query assessment scores.</description>
  <messageID>24083F7F-6AB0-4912-B7AA-34C05540E2FA</messageID>
</alert>
```

Example 3.6.1-1: alert

3.6.2 codeSet

The Code Set Registry Service provides a way for all legal codes to be defined outside of the SIF Specification while allowing changes (additions and replacements) of external code set values to be easily verified by the recipient so as not to break existing Consumer / Provider interoperability.

SIF\_Events are not reported for this object.

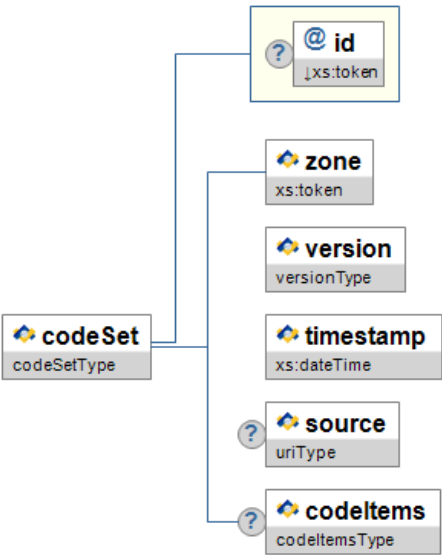


Figure 3.6.2-1: codeSet


Element/@Attribute	Char	Privacy Rating	Description	Type				
codeSet			The Code Set Registry Service provides a way for all legal codes to be defined outside of the SIF Specification while allowing changes (additions and replacements) of external code set values to be easily verified by the recipient so as not to break existing Consumer / Provider interoperability.					
@ id 	O			xs:token <table><tr><td>xs:minLength</td><td>0</td></tr><tr><td>xs:maxLength</td><td>128</td></tr></table>	xs:minLength	0	xs:maxLength	128
xs:minLength	0							
xs:maxLength	128							
zone	M		If this is tied to a specific zone it is specified here, otherwise "environment-global" indicates applicability to all zones in the Environment.	xs:token				
version	M		The official major, minor, and revision version of the code set.	versionType				
timestamp	M		The date and time of the last change to this code set. So that only updates can be queried efficiently (where applicable).	xs:dateTime				
source	C nillable="false"		URL to an external code set whose values are not (yet) present in the system.	uriType				
codeItems	O nillable="false"			codeItemsType				

Table 3.6.2-1: codeSet

JSON

```
[
  {
    "codeSet": {
      "id": "FEDB3FEC-4066-4BC0-882B-DC42CF7C1C0F",
      "zone": "CamasSchoolDistrict",
      "version": "1.0",
      "timestamp": "2022-07-02T14:26:58.762",
      "source": "https://ceds.ed.gov/element/000328",
      "codeItems": {
        "codeItem": [
          {
            "code": "Yes",
            "value": "Yes",
            "definition": "An indication that the school has students who are ability grouped for classroom instruction in mathematics or English/reading/language arts.",
            "action": "ADD",
            "timestamp": "2022-07-02T14:26:58.762"
          },
          {
            "code": "No",
            "value": "No",
            "action": "ADD",
            "timestamp": "2022-07-02T14:26:58.762"
          }
        ]
      }
    }
  ]
}
```

XML

```
<codeSet id="FEDB3FEC-4066-4BC0-882B-DC42CF7C1C0F">
  <zone>CamasSchoolDistrict</zone>
  <version>1.0</version>
  <timestamp>2022-07-02T14:26:58.762</timestamp>
  <source>https://ceds.ed.gov/element/000328</source>
  <codeItems>
    <codeItem>
      <code>Yes</code>
      <value>Yes</value>
      <definition>An indication that the school has students who are ability grouped for classroom instruction in mathematics or English/reading/language arts.</definition>
      <action>ADD</action>
      <timestamp>2022-07-02T14:26:58.762</timestamp>
    </codeItem>
    <codeItem>
      <code>No</code>
      <value>No</value>
      <action>ADD</action>
      <timestamp>2022-07-02T14:26:58.762</timestamp>
    </codeItem>
  </codeItems>
</codeSet>
```

Example 3.6.2-1: codeSet

3.6.3 namespace

The Namespaces Registry contains the set of XML namespace URIs and their corresponding schema location URLs that are currently valid within the Environment.

SIF\_Events are reported for this object.

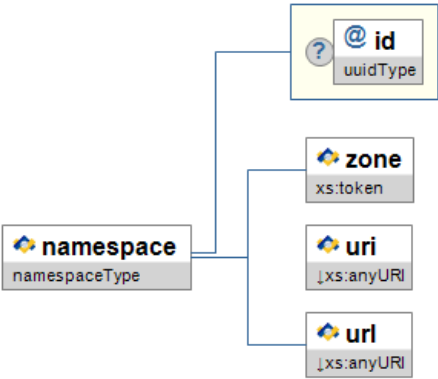


Figure 3.6.3-1: namespace

Element/@Attribute	Char	Privacy Rating	Description	Type
namespace			The Namespaces Registry contains the set of XML namespace URIs and their corresponding schema location URLs that are currently valid within the Environment.	

Element/@Attribute		Char	Privacy Rating	Description	Type
@	id	O			uuidType
	zone	M		If this namespace is tied to a specific zone it is specified here.	xs:token
	uri	M		The namespace URI of the retrieved URL.	xs:anyURI <div>xs:maxLength2048</div>
	url	M		The URL of the specified namespace URI.	xs:anyURI <div>xs:maxLength2048</div>

Table 3.6.3-1: namespace

JSON

```
[
  {
    "namespace": {
      "id": "7D818589-364A-467C-800E-7049100A7663",
      "zone": "CamasSchoolDistrict",
      "uri": "http://www.sifassociation.org/infrastructure/3.7",
      "url": "http://specification.sifassociation.org/Implementation/Infrastructure/3.7/XSD/Schema_NoIncludes_Annotated_Strict/SIF_Message.xsd"
    }
  }
]
```

XML

```
<namespace id="7D818589-364A-467C-800E-7049100A7663">
  <zone>CamasSchoolDistrict</zone>
  <uri>http://www.sifassociation.org/infrastructure/3.7</uri>
  <url>http://specification.sifassociation.org/Implementation/Infrastructure/3.7/XSD/Schema_NoIncludes_Annotated_Strict/SIF_Message.xsd</url>
</namespace>
```

Example 3.6.3-1: namespace

3.6.4 provider

All potentially accessible Services have an entry in the Providers Registry (including the Providers Registry Utility Service itself), although full or even partial Consumer access to that Service is determined by the access rights currently granted in the Consumer's Environment object, and is not guaranteed.

SIF\_Events are reported for this object.

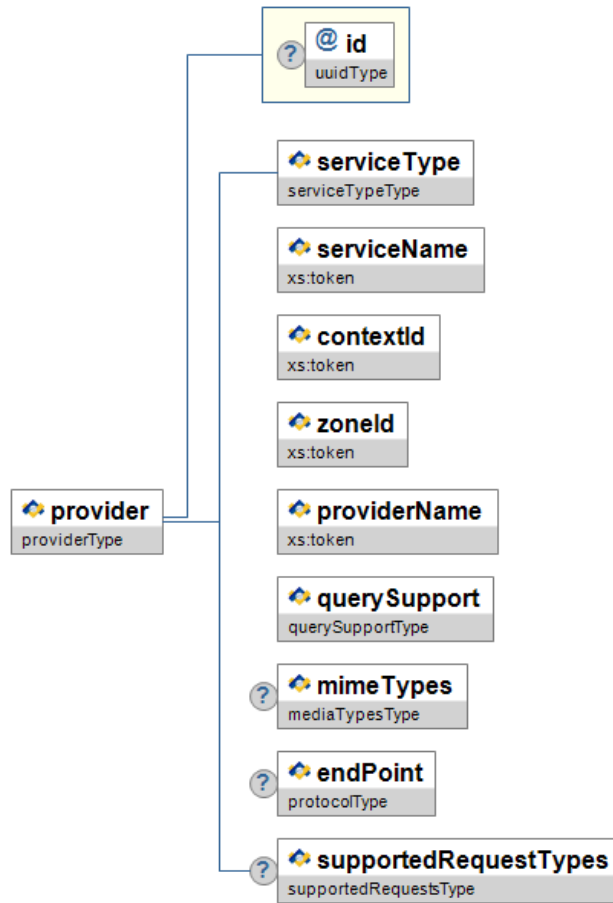


Figure 3.6.4-1: provider

Element/@Attribute	Char	Privacy Rating	Description	Type
provider			All potentially accessible Services have an entry in the Providers Registry (including the Providers Registry Utility Service itself), although full or even partial Consumer access to that Service is determined by the access rights currently granted in the Consumer's Environment object, and is not guaranteed.	
@ id	O			uuidType
serviceType	M		The generic type of Service being provided.	serviceTypeType values: UTILITY OBJECT FUNCTIONAL SERVICEPATH XQUERYTEMPLATE SERVICE
serviceName	M		The name of the Service or the Service Path being provided.	xs:token
contextId	M		The name of the Service Context being provided.	xs:token
zoneId	M		The Zone in which the Service Context is being provided.	xs:token
providerName	M		The name of the Service Provider as it would be referred to by the administrator of the Zone (ex: RamseySIS).	xs:token



Element/@Attribute	Char	Privacy Rating	Description	Type
querySupport	M			querySupportType
mimeTypes	O nillable="false"			mediaTypesType
endPoint	C nillable="false"		In a Brokered Environment, this element contains the URL where all requests for this Service Provider should be re-invoked by the Connector	protocolType
supportedRequestTypes	O nillable="false"			supportedRequestsType

Table 3.6.4-1: provider

JSON

```
[
  {
    "provider": {
      "id": "EA6F7130-0F61-42CF-8D9C-68A083060B9F",
      "serviceType": "OBJECT",
      "serviceName": "StudentPersonal",
      "contextId": "DEFAULT",
      "zoneId": "CamasSchoolDistrict",
      "providerName": "LovellSIS",
      "querySupport": {
        "dynamicQuery": true,
        "queryByExample": false,
        "changesSinceMarker": false,
        "paged": false,
        "maxPageSize": 1000,
        "totalCount": true,
        "applicationProduct": {
          "vendorName": "Lovell Software",
          "productName": "LovellSIS",
          "productVersion": "1.0"
        },
        "adapterProduct": {
          "vendorName": "Kleinman Computers",
          "productName": "ScalableREST",
          "productVersion": "3.5"
        }
      },
      "mimeTypes": {
        "mediaType": [
          "application/xml",
          "application/json"
        ]
      },
      "endPoint": {
        "location": "http://www.example.com/provider/"
      },
      "supportedRequestTypes": {
        "supportedRequestType": [
          {
            "requestType": "IMMEDIATE",
            "operations": {
              "operation": [
                "QUERY",
                "UPDATE",
                "DELETE"
              ]
            }
          },
          {
            "requestType": "DELAYED",
            "operations": {
              "operation": [
                "CREATE"
              ]
            }
          }
        ]
      }
    }
  }
]
```

XML

```

<provider id="EA6F7130-0F61-42CF-8D9C-68A083060B9F">
  <serviceType>OBJECT</serviceType>
  <serviceName>StudentPersonal</serviceName>
  <contextId>DEFAULT</contextId>
  <zoneId>CamasSchoolDistrict</zoneId>
  <providerName>LovellSIS</providerName>
  <querySupport>
    <dynamicQuery>true</dynamicQuery>
    <queryByExample>false</queryByExample>
    <changesSinceMarker>false</changesSinceMarker>
    <paged>false</paged>
    <maxPageSize>1000</maxPageSize>
    <totalCount>true</totalCount>
  </querySupport>
  <applicationProduct>
    <vendorName>Lovell Software</vendorName>
    <productName>LovellSIS</productName>
    <productVersion>1.0</productVersion>
  </applicationProduct>
  <adapterProduct>
    <vendorName>Kleinman Computers</vendorName>
    <productName>ScalableREST</productName>
    <productVersion>3.5</productVersion>
  </adapterProduct>
  <querySupport>
    <mimeTypes>
      <mediaType>application/xml</mediaType>
      <mediaType>application/json</mediaType>
    </mimeTypes>
  </querySupport>
  <endPoint>
    <location>http://www.example.com/provider/</location>
  </endPoint>
  <supportedRequestTypes>
    <supportedRequestType>
      <requestType>IMMEDIATE</requestType>
      <operations>
        <operation>QUERY</operation>
        <operation>UPDATE</operation>
        <operation>DELETE</operation>
      </operations>
    </supportedRequestType>
    <supportedRequestType>
      <requestType>DELAYED</requestType>
      <operations>
        <operation>CREATE</operation>
      </operations>
    </supportedRequestType>
  </supportedRequestTypes>
</provider>

```

Example 3.6.4-1: provider

### 3.6.5 xquery

This collection defines the entire set of named queries that Consumers may legally issue for execution by Service Providers. A Consumer specifies the ID of a Named XQuery in a Query Request to a specific Service Provider, along with a set of values for any associated script parameters.

SIF\_Events are reported for this object.

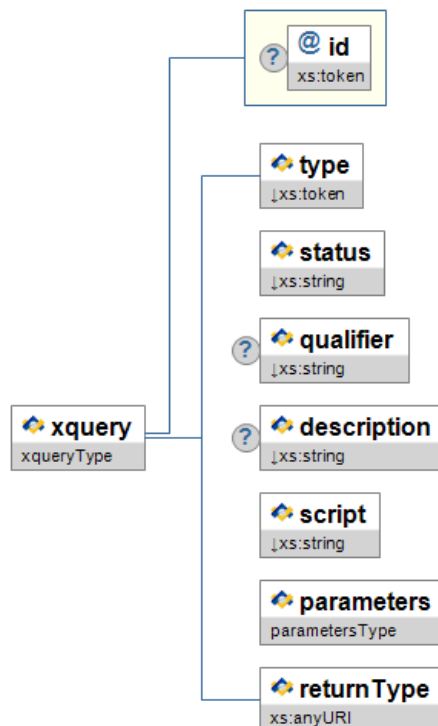


Figure 3.6.5-1: xquery

Element/@Attribute	Char	Privacy Rating	Description	Type
xquery			This collection defines the entire set of named queries that Consumers may legally issue for execution by Service Providers. A Consumer specifies the ID of a Named XQuery in a Query Request to a specific Service Provider, along with a set of values for any associated script parameters.	
@ key id	C		The unique ID of the XQuery Template, which is contained in the Query Request URL when this template is being utilized. "Suggested" by the Consumer issuing the create Request, or pre-set in accordance with the binding requirements of a particular SIF release. This is NOT required to be a UUID, and must be provided as the Service Identifier in every Query URL which invokes this Template. Ex: "StudentSnapshot".	xs:token
type	M		Determines if the query may be sent to a data provider or if it requires the extended XQuery mechanism.	values: SINGULAR FORMULA EXTENDED
status	M		Communicates if the query has been inspected for data hiding and the results of that assessment.	values: PENDING APPROVED DISALLOWED
qualifier	O nillable="false"		If status is DISALLOWED this element optionally contains the reason.	xs:string xs:minLength 0 xs:maxLength 1024
description	O nillable="false"		Human readable description of the XQuery's intended behavior.	xs:string xs:minLength 0 xs:maxLength 1024
script	M		The text of the XQuery which MAY accept parameters. Usage of the CDATA designation is recommended. An empty value indicates the query is implimented wihtout XQuery or its logic is not disclosed	xs:string xs:minLength 0
parameters	M			parametersType
returnType	M nillable="true"		The fully qualified name of the root element returned by this service. Example: http://www.sifassociation.org/datamodel/na/3.3:students	xs:anyURI

Table 3.6.5-1: xquery

## JSON

```
[
  {
    "xquery": {
      "id": "CompanyPODs",
      "type": "EXTENDED",
      "status": "APPROVED",
      "description": "Returns all PODs for the specified company.",
      "script": "",
      "parameters": {
        "parameter": [
          {
            "name": "companyid",
            "type": "xs:unsignedInt",
            "default": "63",
            "description": "The companies unique ID from the Student Data Privacy Consortium (SDPC) registry.",
            "required": true,
            "range": {
              "start": 0,
              "end": 4294967295
            },
            "minLength": 1,
            "maxLength": 10
          }
        ]
      },
      "returnType": "http://www.sifassociation.org/infrastructure/3.7:Pods"
    }
  }
]
```

## XML

```
<xquery id="CompanyPODs">
  <type>EXTENDED</type>
  <status>APPROVED</status>
  <description>Returns all PODs for the specified company.</description>
  <script />
  <parameters>
    <parameter>
      <name>companyid</name>
      <type>xs:unsignedInt</type>
      <default>63</default>
      <description>The companies unique ID from the Student Data Privacy Consortium (SDPC) registry.</description>
      <required>true</required>
      <range>
        <start>0</start>
        <end>4294967295</end>
      </range>
      <minLength>1</minLength>
      <maxLength>10</maxLength>
    </parameter>
  </parameters>
  <returnType>http://www.sifassociation.org/infrastructure/3.7:Pods</returnType>
</xquery>
```

Example 3.6.5-1: xquery

## 3.6.6 zone

Zone identifiers are chosen by the administrator and can follow any convention that best meets the needs of the deploying organization. The Zone in which the Service is to be found always qualifies every Consumer request for any Provider Service. Each Service Consumer is assigned a "default" Zone at Registration time, which is used whenever a specific Zone is not explicitly included in one of its Provider Service Requests.

SIF\_Events are not reported for this object.

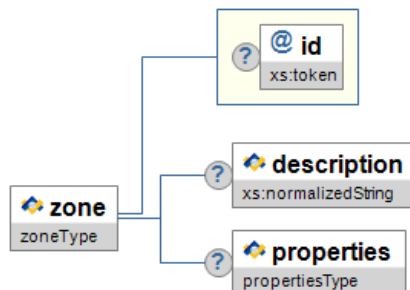


Figure 3.6.6-1: zone

Element/@Attribute		Char	Privacy Rating	Description	Type
	zone			Zone identifiers are chosen by the administrator and can follow any convention that best meets the needs of the deploying organization. The Zone in which the Service is to be found always qualifies every Consumer request for any Provider Service. Each Service Consumer is assigned a "default" Zone at Registration time, which is used whenever a specific Zone is not explicitly included in one of its Provider Service Requests.	
@ key	id	O			xs:token
	description	O nillable="false"		A short (possibly multi-sentence) description of the Zone	xs:normalizedString
	properties	O nillable="false"			propertiesType

Table 3.6.6-1: zone

JSON

```
[
  {
    "zone": {
      "id": "District",
      "description": "The zone for the local school district.",
      "properties": {
        "property": [
          {
            "name": "email",
            "value": "john.smith@district.k12.wa.us"
          },
          {
            "name": "phone",
            "value": "(360)555-1234"
          }
        ]
      }
    }
  }
]
```

XML

```
<zone id="District">
  <description>The zone for the local school district.</description>
  <properties>
    <property name="email">john.smith@district.k12.wa.us</property>
    <property name="phone">(360)555-1234</property>
  </properties>
</zone>
```

Example 3.6.6-1: environment

# Appendix A: Common Types

Common and supporting types referenced in this specification are included here as a reference.

## A.1 adapterFingerprintListType

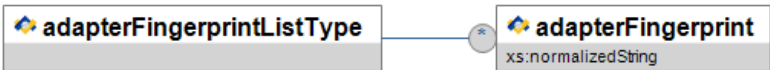


Figure A.1-1: adapterFingerprintListType

Element/@Attribute	Char	Description	Type
adapterFingerprintListType			List
adapterFingerprint	OR	An opaque marker that represents the amalgam of all underlying PODs tied to a specific DataProcessor-DataController relationship.	xs:normalizedString

Table A.1-1: adapterFingerprintListType

## A.2 aliasesType

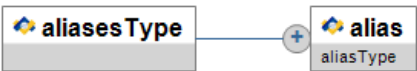


Figure A.2-1: aliasesType

Element/@Attribute	Char	Description	Type
aliasesType			List
alias	MR		aliasType

Table A.2-1: aliasesType

## A.3 aliasType

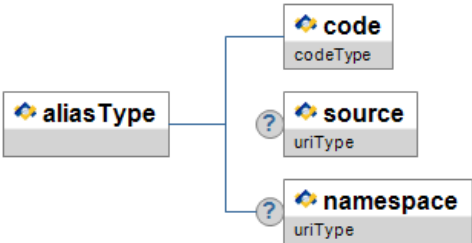


Figure A.3-1: aliasType

Element/@Attribute	Char	Description	Type
aliasType			
code	M		codeType
source	O	URL where the related abbreviation comes from.	uriType

Element/@Attribute	Char	Description	Type
namespace	O	Namespace where the related abbreviation comes from.	uriType

Table A.3-1: aliasType

A.4 alternatePurposeListType

Purposes for which the data may be shared beyond its original uses.



Figure A.4-1: alternatePurposeListType

Element/@Attribute	Char	Description	Type
alternatePurposeListType		Purposes for which the data may be shared beyond its original uses.	List
alternatePurpose	OR	A purpose for which the data may be shared beyond its original uses.	xs:normalizedString

Table A.4-1: alternatePurposeListType

A.5 appIDListType

List of application identifiers.



Figure A.5-1: appIDListType

Element/@Attribute	Char	Description	Type
appIDListType		List of application identifiers.	List
appID	OR	The name of the software providing the services for a particular data source.	xs:normalizedString

Table A.5-1: appIDListType

A.6 applicationInfoType

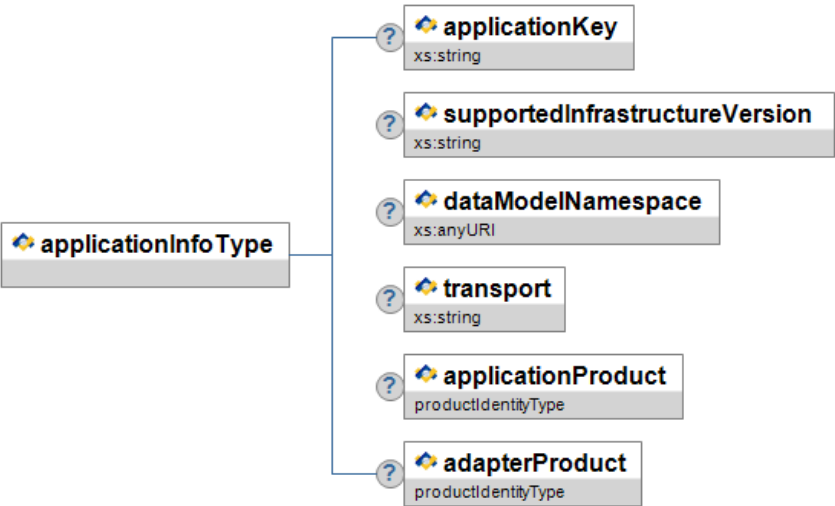


Figure A.6-1: applicationInfoType

Element/@Attribute	Char	Description	Type
applicationInfoType			
applicationKey	O nillable="false"	An opaque (to the SIF standard) element which contains any required Consumer authentication information. The content of this element is site-specific. For a Direct Environment which accepts Consumer Registration Requests from a mobile application, this element might contain a combination of the User ID and Password.	xs:string
supportedInfrastructureVersion	O nillable="false"	The version of the SIF infrastructure which the Consumer supports.	xs:string
dataModelNamespace	O nillable="false"	The namespace of the data payloads conveyed by this environment. Returns may be of a different minor version. Utility payloads will be of the infrastructure namespace.	xs:anyURI
transport	O nillable="false"	The transport which the Consumer expects the infrastructure to use to interoperate with it. The default is whichever transport the create request was issued on	xs:string
applicationProduct	O nillable="false"		productIdentityType
adapterProduct	O nillable="false"		productIdentityType

Table A.6-1: applicationInfoType

A.7 benchmarkListType

A List of benchmarks - where a benchmark is a set of technical or process standards to ensure the clause is met.



Figure A.7-1: benchmarkListType



Element/@Attribute	Char	Description	Type
benchmarkListType		A List of benchmarks - where a benchmark is a set of technical or process standards to ensure the clause is met.	List
benchmark	OR	A benchmark is a set of technical or process standards to ensure the clause is met.	benchmarkType

Table A.7-1: benchmarkListType

A.8 benchmarkType

A set of technical or process standards to ensure the clause is met.

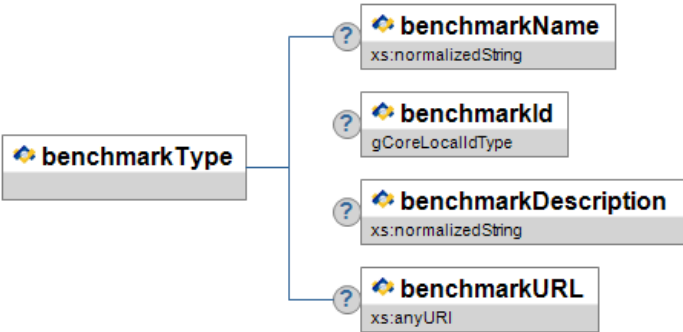


Figure A.8-1: benchmarkType

Element/@Attribute	Char	Description	Type
benchmarkType		A set of technical or process standards to ensure the clause is met.	
benchmarkName	O	A name given to the evidence against which privacy obligations or requirements may be assessed or measured.	xs:normalizedString
benchmarkId	O	A unique identifier assigned to an instance of the evidence against which privacy obligations or requirements may be assessed or measured.	gCoreLocalIdType
benchmarkDescription	O	A description of the evidence against which privacy obligations or requirements may be assessed or measured.	xs:normalizedString
benchmarkURL	O	A URL pointing to the evidence against which privacy obligations or requirements may be assessed or measured.	xs:anyURI

Table A.8-1: benchmarkType

A.9 clauseListType

A list of the legal clauses within the contract.

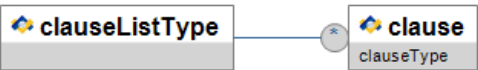


Figure A.9-1: clauseListType

Element/@Attribute	Char	Description	Type
clauseListType		A list of the legal clauses within the contract.	List
clause	OR	Details of a legal clause within the contract.	clauseType

Table A.9-1: clauseListType

A.10 clauseType

Details of a legal clause within the contract.

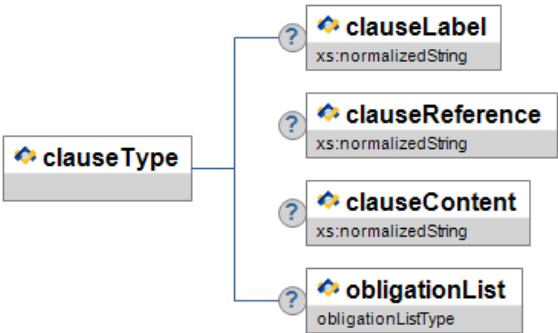


Figure A.10-1: clauseType

Element/@Attribute	Char	Description	Type
clauseType		Details of a legal clause within the contract.	
clauseLabel	O	A human friendly handle for refering to the associated clause.	xs:normalizedString
clauseReference	O	An exact reference within the contract to a specific clause.	xs:normalizedString
clauseContent	O	The actual detailed content of the clause.	xs:normalizedString
obligationList	O	List of obligations.	obligationListType

Table A.10-1: clauseType

A.11 codeItemsType



Figure A.11-1: codeItemsType

Element/@Attribute	Char	Description	Type
codeItemsType			List
codeItem	MR		codeItemType

Table A.11-1: codeItemsType

A.12 codeItemType

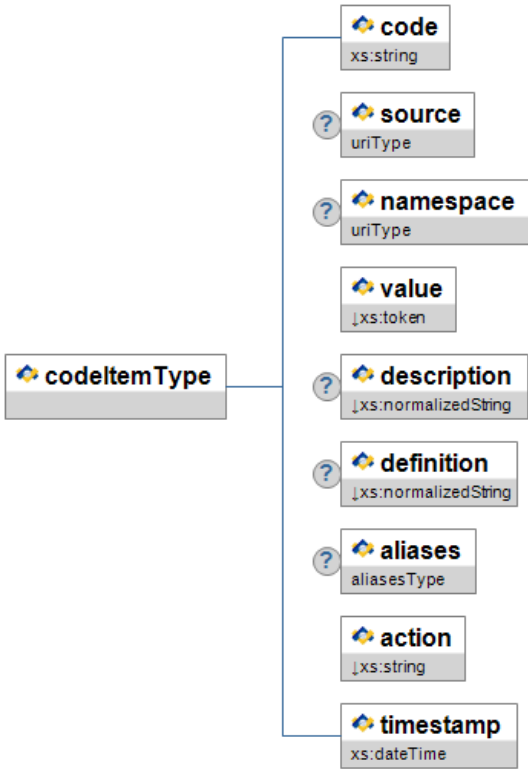


Figure A.12-1: codeItemType

Element/@Attribute	Char	Description	Type				
codeItemType							
code	M	Official abbreviation for the given value.	xs:string				
source	O	URL where the related abbreviation comes from.	uriType				
namespace	O	Namespace where the related abbreviation comes from.	uriType				
value	M nillable="true"	What the code represents.	xs:token <table><tr><td>xs:minLength</td><td>0</td></tr><tr><td>xs:maxLength</td><td>128</td></tr></table>	xs:minLength	0	xs:maxLength	128
xs:minLength	0						
xs:maxLength	128						
description	O nillable="false"	Human readable explanation of what the code represents.	xs:normalizedString <table><tr><td>xs:minLength</td><td>0</td></tr><tr><td>xs:maxLength</td><td>1024</td></tr></table>	xs:minLength	0	xs:maxLength	1024
xs:minLength	0						
xs:maxLength	1024						
definition	O nillable="false"	Human readable explanation provided by the source!	xs:normalizedString <table><tr><td>xs:minLength</td><td>0</td></tr><tr><td>xs:maxLength</td><td>4096</td></tr></table>	xs:minLength	0	xs:maxLength	4096
xs:minLength	0						
xs:maxLength	4096						
aliases	O nillable="false"		aliasesType				

Element/@Attribute	Char	Description	Type
action	M	The last action to be taken for this code item.	values: ADD CHANGE DEPRECATED DELETE
timestamp	M	The date and time of the last action taken on this code item. So that only updates can be queried efficiently (where applicable).	xs:dateTime

Table A.12-1: codeItem Type

A.13 codeType

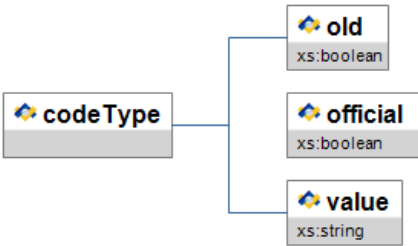


Figure A.13-1: codeType

Element/@Attribute	Char	Description	Type
codeType			
old	M	Indicates the alias code has been deprecated or deleted, even if it no longer appears in the register.	xs:boolean
official	M	Indicates the alias code is an official one; however the locale uses this one to represent that concept, at least in part.	xs:boolean
value	M	Alternate abbreviation that might need to be more specific or correct.	xs:string

Table A.13-1: codeType

A.14 conditionListType

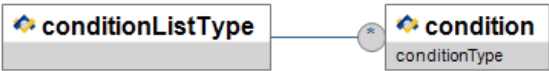


Figure A.14-1: conditionListType

Element/@Attribute	Char	Description	Type
conditionListType			List
condition	OR		conditionType

Table A.14-1: conditionListType

A.15 conditionType

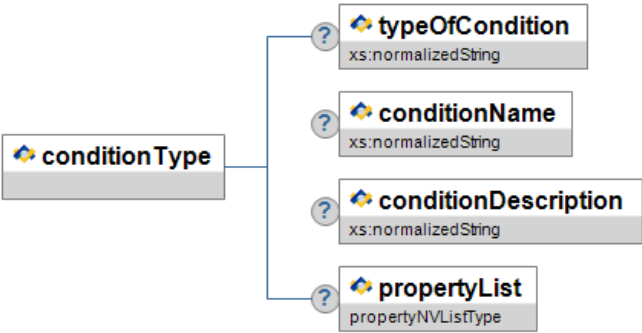


Figure A.15-1: conditionType

Element/@Attribute	Char	Description	Type
conditionType			
typeOfCondition	O	The name of the parameter used fo enforce the privacy condition.	xs:normalizedString
conditionName	O	The name of the parameter used to enforce the privacy condition.	xs:normalizedString
conditionDescription	O	The explanation of what the related privacy conditions combine to do in plain terms.	xs:normalizedString
propertyList	O		propertyNVListType

Table A.15-1: conditionType

A.16 contractType

The details of the contract the POD has been derived from.

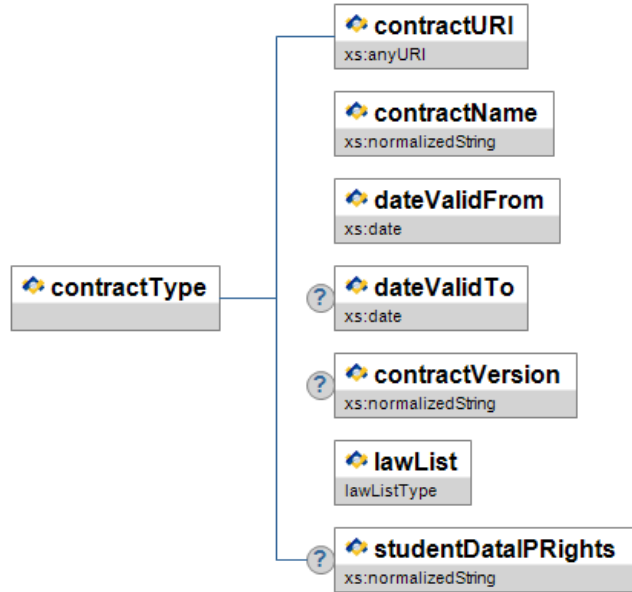


Figure A.16-1: contractType

Element/@Attribute	Char	Description	Type
contractType	O	The details of the contract the POD has been derived from.	

Element/@Attribute	Char	Description	Type
contractURI	M	URI associated with contract. This may be a resolvable URL or just a unique identifier.	xs:anyURI
contractName	M	Name associated with contract	xs:normalizedString
dateValidFrom	M	The initial date that the contract is enforceable.	xs:date
dateValidTo	O	The date the contract expires and is no longer enforceable.	xs:date
contractVersion	O	The version of the contract being represented by the associated elements.	xs:normalizedString
lawList	M	List of laws covered referenced by the contract.	lawListType
studentDataIRights	O	Who owns the intellectual property for any student under this contract.	xs:normalizedString

Table A.16-1: contractType

A.17 countryImpactedListType

List of impacted countries in or through which the data transits or is stored.

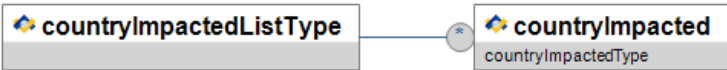


Figure A.17-1: countryImpactedListType

Element/@Attribute	Char	Description	Type
countryImpactedListType		List of impacted countries in or through which the data transits or is stored.	List
countryImpacted	OR	Name of a country impacted in or through which the data transits or is stored.	countryImpactedType

Table A.17-1: countryImpactedListType

A.18 countryImpactedType

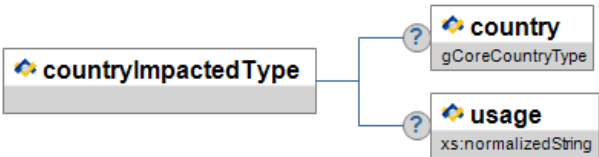


Figure A.18-1: countryImpactedType

Element/@Attribute	Char	Description	Type
countryImpactedType			
country	O	Name of a country impacted in or through which the data transits or is stored.	gCoreCountryType
usage	O	Country specific details about how the processor handles the data.	xs:normalizedString

Table A.18-1: countryImpactedType

A.19 createsType



Figure A.19-1: createsType

Element/@Attribute	Char	Description	Type
createsType			List
create	MR		createType

Table A.19-1: createsType

A.20 createType

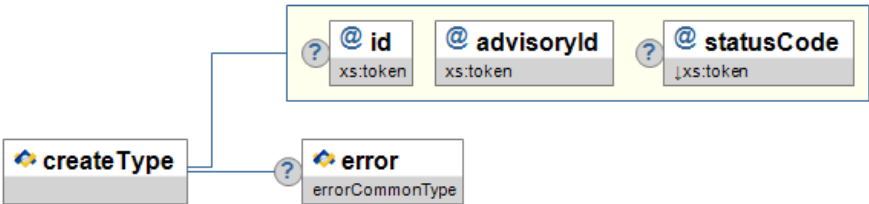


Figure A.20-1: createType

Element/@Attribute	Char	Description	Type
createType			
@ id	O		xs:token
@ advisoryId	M		xs:token
@ statusCode	O		xs:token
			xs:pattern [24-5][0-9]{2}
error	O nillable="false"		errorCommonType

Table A.20-1: createType

A.21 dataAccessType

A list of the data that can be accessed and any rules that specifically apply.

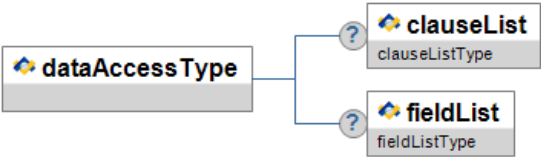


Figure A.21-1: dataAccessType

Element/@Attribute	Char	Description	Type
dataAccessType		A list of the data that can be accessed and any rules that specifically apply.	
clauseList	O	A list of clauses that specifically apply to these technical requirements.	clauseListType
fieldList	O	A list of fields that can be accessed under this POD. Equivalent to a green list.	fieldListType

Table A.21-1: dataAccessType

A.22 dataControllerType

The data controller, means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data, see GDPR.

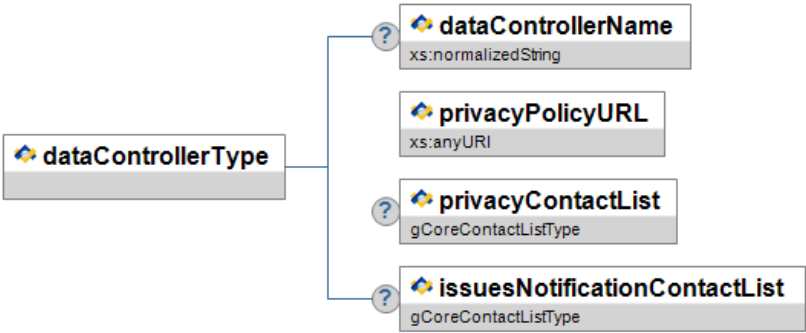


Figure A.22-1: dataControllerType

Element/@Attribute	Char	Description	Type
dataControllerType		The data controller, means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data, see GDPR.	
dataControllerName	O	The name of the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data.	xs:normalizedString
privacyPolicyURL	M	URL Associated with contract	xs:anyURI
privacyContactList	O	The details of the privacy contact.	gCoreContactListType



Element/@Attribute	Char	Description	Type
issuesNotificationContactList	O	The details of the individual to be contacted if there are issues in fulfilling the obligations of the contract.	gCoreContactListType

Table A.22-1: dataControllerType

A.23 dataDeletionType

Details and requirements for data deletion.

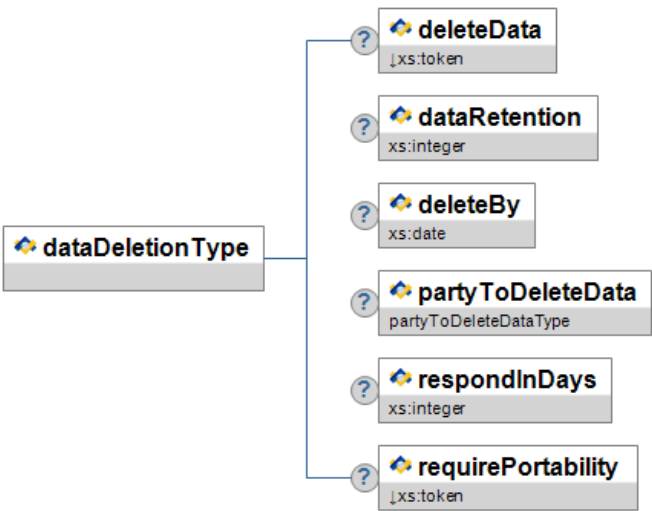


Figure A.23-1: dataDeletionType

Element/@Attribute	Char	Description	Type
dataDeletionType		Details and requirements for data deletion.	
deleteData	O	Flag indicating that the data must be deleted when no longer required for the primary purpose.	values: Y N
dataRetention	O	If allowed, the length of time the data be retained when no longer required for the primary purpose.	xs:integer
deleteBy	O	The specific date should this data be removed from the systems.	xs:date
partyToDeleteData	O	Who is responsible for deletion of this data?	partyToDeleteDataType
respondInDays	O	Maximum response time, number of days, for information regarding this data.	xs:integer
requirePortability	O	Flag indicating that the rules surrounding this data must be ported with applicable data that is transmitted.	values: Y N

Table A.23-1: dataDeletionType

## A.24 dataProcessorType

The data processor, means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller, see GDPR.

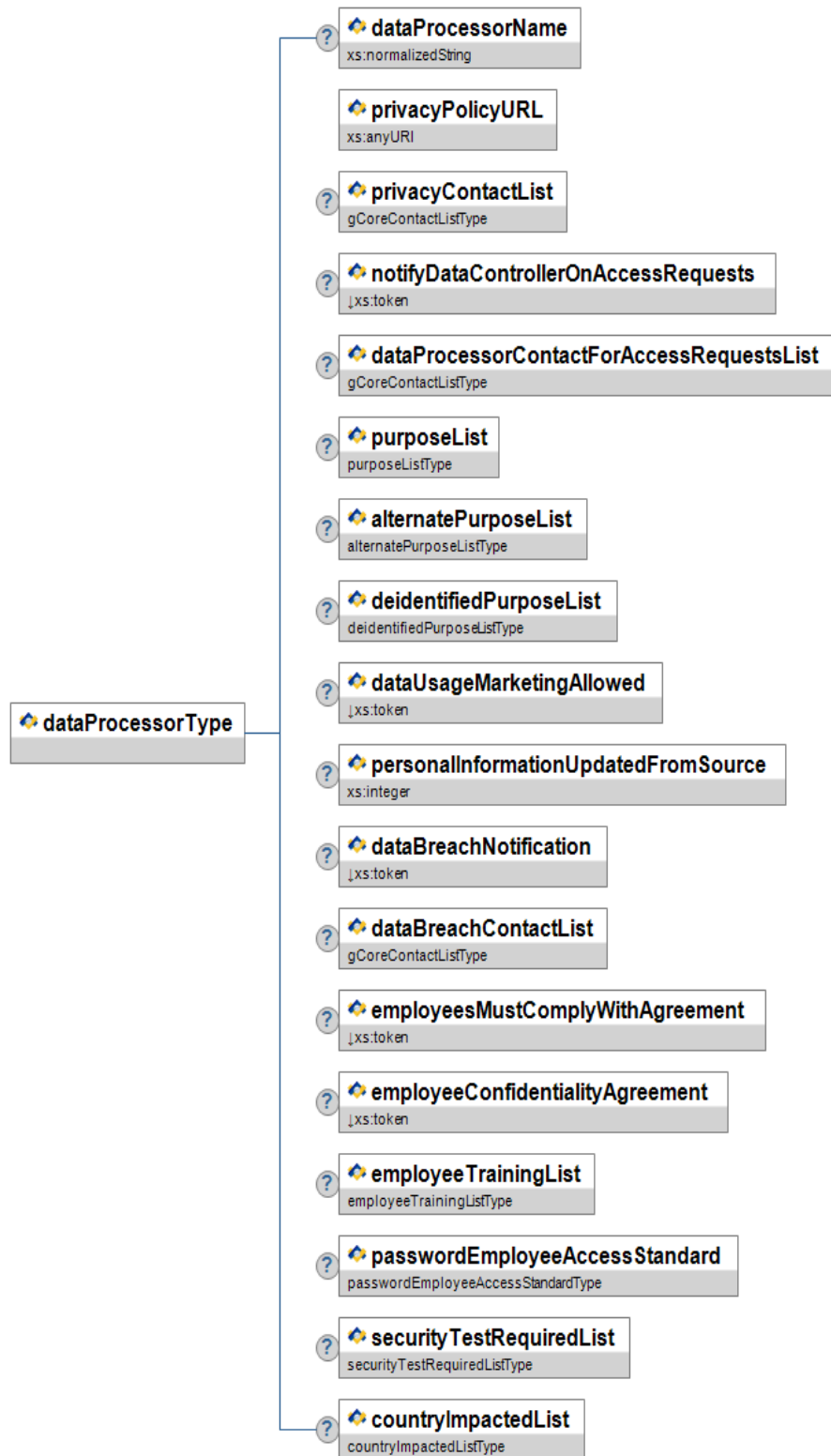


Figure A.24-1: dataProcessorType

Element/@Attribute	Char	Description	Type
dataProcessorType		The data processor, means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller, see GDPR.	
dataProcessorName	O	The label for the vendor who will be accessing, consuming and/or providing information back to the controller.	xs:normalizedString
privacyPolicyURL	M	URL Associated with contract	xs:anyURI
privacyContactList	O	The details of the privacy contact.	gCoreContactListType
notifyDataControllerOnAccessRequests	O	Indicates if the processor needs to advise the controller of access requests.	values: Y N
dataProcessorContactForAccessRequestsList	O	The details of the person to contact for access requests.	gCoreContactListType
purposeList	O	A list or purposes for which the data may be used.	purposeListType
alternatePurposeList	O	A purpose for which the data may be shared beyond its original uses.	alternatePurposeListType
deidentifiedPurposeList	O	The purposes for which deidentified data is able to be used (if any).	deidentifiedPurposeListType
dataUsageMarketingAllowed	O	Determines whether the data may be used for marketing purposes.	values: Y N
personalInformationUpdatedFromSource	O	The frequency at which personal information is to be updated from source systems, including deletions.	xs:integer
dataBreachNotification	O	Determines if notification of those in the breach contact list is required.	values: Y N
dataBreachContactList	O	Contact details for the individual/s to be notified in the event of a data breach.	gCoreContactListType
employeesMustComplyWithAgreement	O	Determines whether the data controller and their staff must also comply with the privacy agreement.	values: Y N
employeeConfidentialityAgreement	O	Determines whether the data controller and their staff must also comply with the confidentiality agreement.	values: Y N

Element/@Attribute	Char	Description	Type
employeeTrainingList	O	A list of the data controller employee's training requirements.	employeeTrainingListType
passwordEmployeeAccessStandard	O	A list of the data controller employee's password access standards.	passwordEmployeeAccessStandardType
securityTestRequiredList	O	A list of security testing required to be completed by the data controller.	securityTestRequiredListType
countryImpactedList	O	List of impacted countries in or through which the data transits or is stored.	countryImpactedListType

Table A.24-1: dataProcessorType

A.25 dataSubjectType

The specific clauses obligations and benchmarks that applies to the subject - teacher, student or parent.

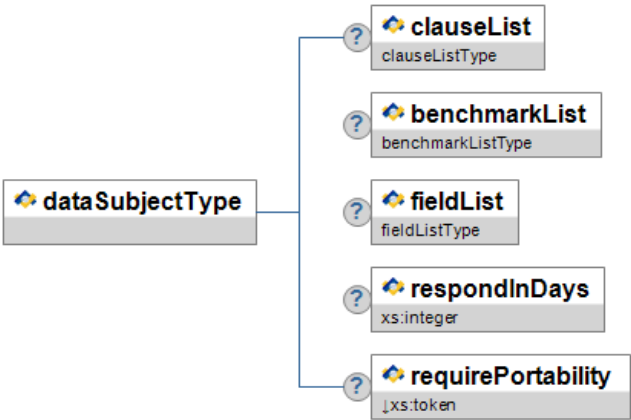


Figure A.25-1: dataSubjectType

Element/@Attribute	Char	Description	Type
dataSubjectType		The specific clauses obligations and benchmarks that applies to the subject - teacher, student or parent.	
clauseList	O		clauseListType
benchmarkList	O		benchmarkListType
fieldList	O	A list of fields that can be accessed under this POD. Equivalent to a green list.	fieldListType
respondInDays	O	Maximum response time, number of days, for information regarding this data.	xs:integer
requirePortability	O	Flag indicating that the rules surrounding this data must be ported with applicable data that is transmitted.	values: Y N

Table A.25-1: dataSubjectType

A.26 dataSubProcessorListType

The list of data sub-Processors who are the bodies that process data on behalf of the Data Processor.

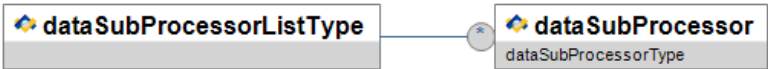


Figure A.26-1: dataSubProcessorListType

Element/@Attribute	Char	Description	Type
dataSubProcessorListType		The list of data sub-Processors who are the bodies that process data on behalf of the Data Processor.	List
dataSubProcessor	OR	A data sub-Processors who are the bodies that process data on behalf of the Data Processor.	dataSubProcessorType

Table A.26-1: dataSubProcessorListType

A.27 dataSubProcessorType

Details of organisations who process data on behalf of the data processor.

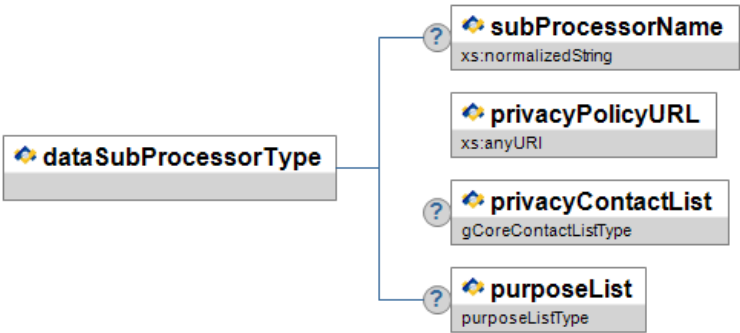


Figure A.27-1: dataSubProcessorType

Element/@Attribute	Char	Description	Type
dataSubProcessorType		Details of organisations who process data on behalf of the data processor.	
subProcessorName	O	The name of the natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller.	xs:normalizedString
privacyPolicyURL	M	URL Associated with contract	xs:anyURI
privacyContactList	O	Details of the data sub processor`s privacy contact.	gCoreContactListType
purposeList	O	The purpose for which data is supplied to the data sub processor by the data processor.	purposeListType

Table A.27-1: dataSubProcessorType

A.28 defaultZoneType

Zone identifiers are chosen by the administrator and can follow any convention that best meets the needs of the deploying organization. The Zone in which the Service is to be found always qualifies every Consumer request for any Provider Service. Each Service Consumer is assigned a "default" Zone at Registration time, which is used whenever a specific Zone is not explicitly included in one of its Provider Service Requests.

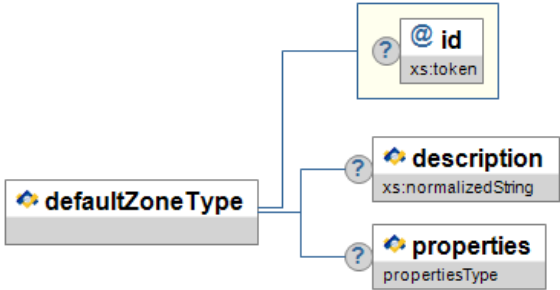


Figure A.28-1: defaultZoneType

Element/@Attribute	Char	Description	Type
defaultZoneType		Zone identifiers are chosen by the administrator and can follow any convention that best meets the needs of the deploying organization. The Zone in which the Service is to be found always qualifies every Consumer request for any Provider Service. Each Service Consumer is assigned a "default" Zone at Registration time, which is used whenever a specific Zone is not explicitly included in one of its Provider Service Requests.	
@ id	O		xs:token
description	O nillable="false"	A short (possibly multi-sentence) description of the Zone	xs:normalizedString
properties	O nillable="false"		propertiesType

Table A.28-1: defaultZoneType

A.29 DefinedProtocolsType

The transport protocols defined in SIF.



Figure A.29-1: DefinedProtocolsType

Element/@Attribute	Char	Description	Type
DefinedProtocolsType		The transport protocols defined in SIF.	values: HTTPS HTTP

Table A.29-1: DefinedProtocolsType

A.30 deidentifiedPurposeListType

A purposes for which deidentified data may be used.



Figure A.30-1: deidentifiedPurposeListType

Element/@Attribute	Char	Description	Type
deidentifiedPurposeListType		A purposes for which deidentified data may be used.	List
deidentifiedPurpose	OR	A purpose for which deidentified data may be used.	xs:normalizedString

Table A.30-1: deidentifiedPurposeListType

A.31 deleteIdCollectionType

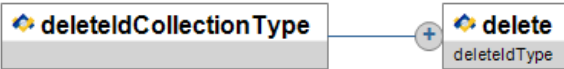


Figure A.31-1: deleteIdCollectionType

Element/@Attribute	Char	Description	Type
deleteIdCollectionType			List
delete	MR		deleteIdType

Table A.31-1: deleteIdCollectionType

A.32 deleteIdType



Figure A.32-1: deleteIdType

Element/@Attribute	Char	Description	Type
deleteIdType			EMPTY
@ id	M		xs:token

Table A.32-1: deleteIdType

A.33 deleteStatusCollectionType

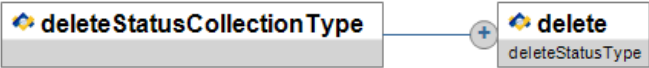


Figure A.33-1: deleteStatusCollectionType

Element/@Attribute	Char	Description	Type
deleteStatusCollectionType			List
delete	MR		deleteStatusType

Table A.33-1: deleteStatusCollectionType

A.34 deleteStatusType

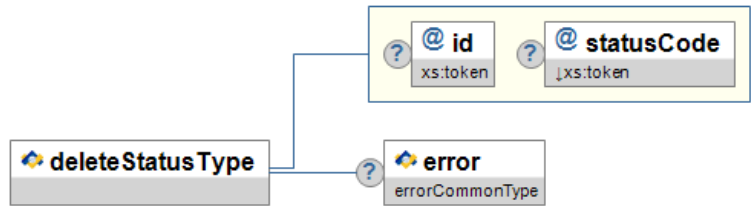


Figure A.34-1: deleteStatusType

Element/@Attribute	Char	Description	Type
deleteStatusType			
@ id	O		xs:token
@ statusCode	O		xs:token <div>xs:pattern [24-5][0-9]{2}</div>
error	O nillable="false"		errorCommonType

Table A.34-1: deleteStatusType

A.35 employeeTrainingListType

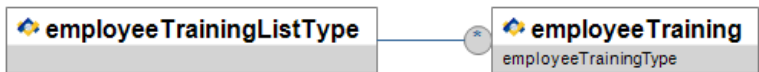


Figure A.35-1: employeeTrainingListType

Element/@Attribute	Char	Description	Type
employeeTrainingListType			List
employeeTraining	OR		employeeTrainingType

Table A.35-1: employeeTrainingListType

A.36 employeeTrainingType

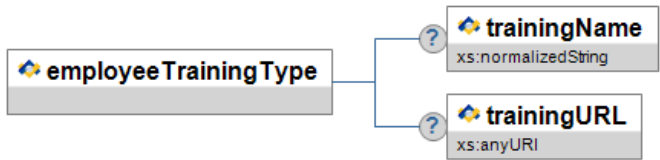


Figure A.36-1: employeeTrainingType

Element/@Attribute	Char	Description	Type
employeeTrainingType			
trainingName	O	The label of the training being given to employees to teach privacy requirements and practices.	xs:normalizedString
trainingURL	O	The URL of the training being given to employees to teach privacy requirements and practices.	xs:anyURI



Table A.36-1: employeeTrainingType

A.37 endpointListType

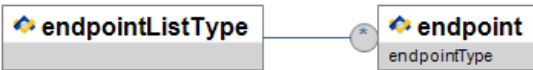


Figure A.37-1: endpointListType

Element/@Attribute	Char	Description	Type
endpointListType			List
endpoint	OR	An endpoint covered by the POD.	endpointType

Table A.37-1: endpointListType

A.38 endpointType

A type of endpoint.

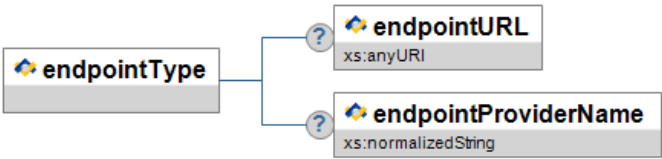


Figure A.38-1: endpointType

Element/@Attribute	Char	Description	Type
endpointType		A type of endpoint.	
endpointURL	O	The url of the endpoint.	xs:anyURI
endpointProviderName	O	The name of the provider of the endpoint.	xs:normalizedString

Table A.38-1: endpointType

A.39 enumerationsType



Figure A.39-1: enumerationsType

Element/@Attribute	Char	Description	Type
enumerationsType			List
enumeration	MR	Individual setting	enumerationType

Table A.39-1: enumerationsType

A.40 enumerationType

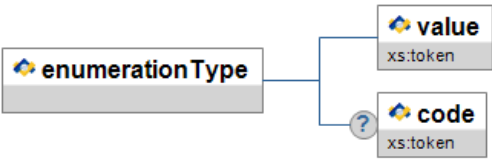


Figure A.40-1: enumerationType

Element/@Attribute	Char	Description	Type
enumerationType			
value	M	An acceptable parameter value for this query.	xs:token
code	C nillable="false"	If enumerated value has an equivalent code, this field may be used for conversion.	xs:token

Table A.40-1: enumerationType

A.41 environmentTypeType



Figure A.41-1: environmentTypeType

Element/@Attribute	Char	Description	Type
environmentTypeType	O		values: DIRECT BROKERED

Table A.41-1: environmentTypeType

A.42 errorCommonType

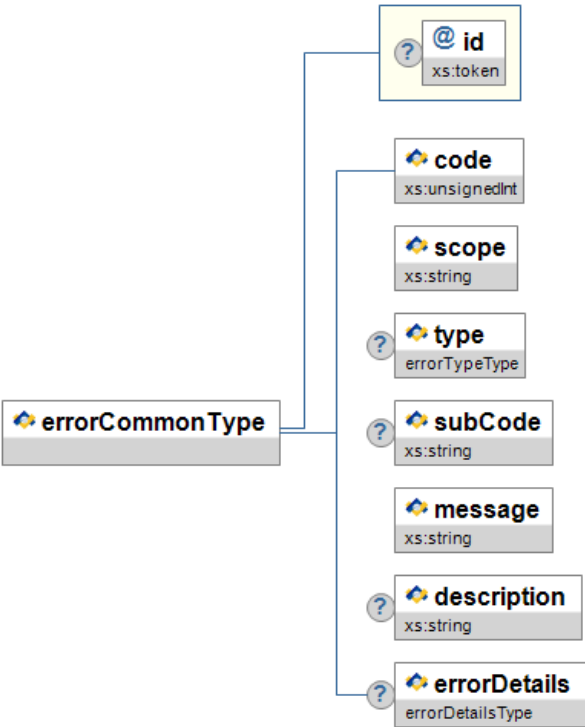


Figure A.42-1: errorCommonType

Element/@Attribute	Char	Description	Type
errorCommonType			
@ id	O		xs:token
code	M	Corresponds to the value contained in the HTTPS Header Status-Code" field in which the Error Object is the payload.	xs:unsignedInt
scope	M	Attempted operation. Ex: "Modify Student"	xs:string
type	O	Indicator if the error relates to infrastructure or data.	errorTypeType values: INFRASTRUCTURE DATA
subCode	O	Machine readable second code used to eliminate ambiguity.	xs:string
message	M	A simple, easy to understand, compact description of the error. The primary consumer of this message is the application user. Example: "Unable to open database."	xs:string
description	O nillable="false"	An optional error description that is more complete and technical in nature. It is to be used as a diagnostic message in trouble-shooting procedures. Example: "The 'Students' table is opened in exclusive mode by user 'ADM1' (dbm.cpp, line 300)."	xs:string
errorDetails	O		errorDetailsType

Table A.42-1: errorCommonType

A.43 errorDetailsType



Figure A.43-1: errorDetailsType

Element/@Attribute	Char	Description	Type
errorDetailsType			List
errorDetail	OR		errorDetailType

Table A.43-1: errorDetailsType

A.44 errorDetailType

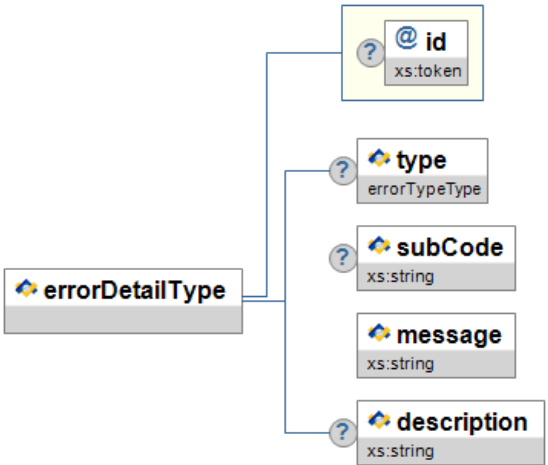


Figure A.44-1: errorDetailType

Element/@Attribute	Char	Description	Type
errorDetailType			
@ id	O		xs:token
type	O	Indicator if the error relates to infrastructure or data.	errorTypeType <b>values:</b> INFRASTRUCTURE DATA
subCode	O	Machine readable second code used to eliminate ambiguity.	xs:string
message	M	A simple, easy to understand, compact description of the error. The primary consumer of this message is the application user. Example: "Unable to open database."	xs:string
description	O nillable="false"	An optional error description that is more complete and technical in nature. It is to be used as a diagnostic message in trouble-shooting procedures. Example: "The 'Students' table is opened in exclusive mode by user 'ADM1' (dbm.cpp, line 300)."	xs:string

Table A.44-1: errorDetailType

A.45 errorTypeType

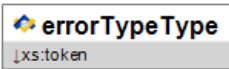


Figure A.45-1: errorTypeType

Element/@Attribute	Char	Description	Type
errorTypeType	O		values:  INFRASTRUCTURE DATA

Table A.45-1: errorTypeType

A.46 ExtendedContentType

Allows for any mixed XML in an element.



Figure A.46-1: ExtendedContentType

Element/@Attribute	Char	Description	Type
ExtendedContentType		Allows for any mixed XML in an element.	<code>&lt;xs:complexContent mixed="true"&gt;   &lt;xs:restriction base="xs:anyType"&gt;     &lt;xs:sequence&gt;       &lt;xs:any processContents="lax" minOccurs="0" maxOccurs="unbounded" /&gt;     &lt;/xs:sequence&gt;   &lt;/xs:restriction&gt; &lt;/xs:complexContent&gt;</code>

Table A.46-1: ExtendedContentType

A.47 fieldListType

A list of fields that can be accessed under this POD. Equivalent to a green list.



Figure A.47-1: fieldListType

Element/@Attribute	Char	Description	Type
fieldListType		A list of fields that can be accessed under this POD. Equivalent to a green list.	List
field	OR	Details of a field that can be accessed under this POD, equivalent to an element in a green list.	fieldType

Table A.47-1: fieldListType

A.48 fieldType

Details of a field that can be accessed under this POD, equivalent to an element in a green list.

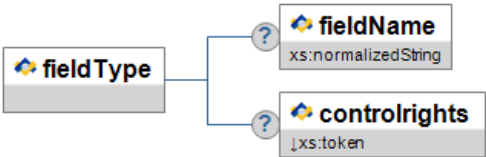


Figure A.48-1: fieldType

Element/@Attribute	Char	Description	Type
fieldType		Details of a field that can be accessed under this POD, equivalent to an element in a green list.	

Element/@Attribute	Char	Description	Type
fieldName	O	The full unique path for the data field being granted access to.	xs:normalizedString
controlrights	O	The level of access being granted to the data.	values: R RW

Table A.48-1: fieldType

A.49 gCoreAddressListType

A list of Address elements.

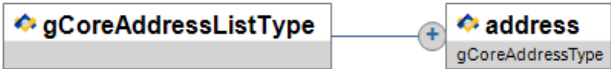


Figure A.49-1: gCoreAddressListType

Element/@Attribute	Char	Description	Type
gCoreAddressListType		A list of Address elements.	List
address	MR		Extension of gCoreAddressType

Table A.49-1: gCoreAddressListType

JSON

```
{ "sample": "
  1 IBM Plaza
  Suite 2000
  Plaza Square
  Chicago
  IL
  USA
  60611
" }
```

XML

```
<addressList>
  <address>
    <line1>1 IBM Plaza</line1>
    <line2>Suite 2000</line2>
    <line3>Plaza Square</line3>
    <city>Chicago</city>
    <stateProvince>IL</stateProvince>
    <country>USA</country>
    <postalCode>60611</postalCode>
  </address>
</addressList>
```

Example A.49-1: gCoreAddressList Example

A.50 gCoreAddressType

This element contains address data

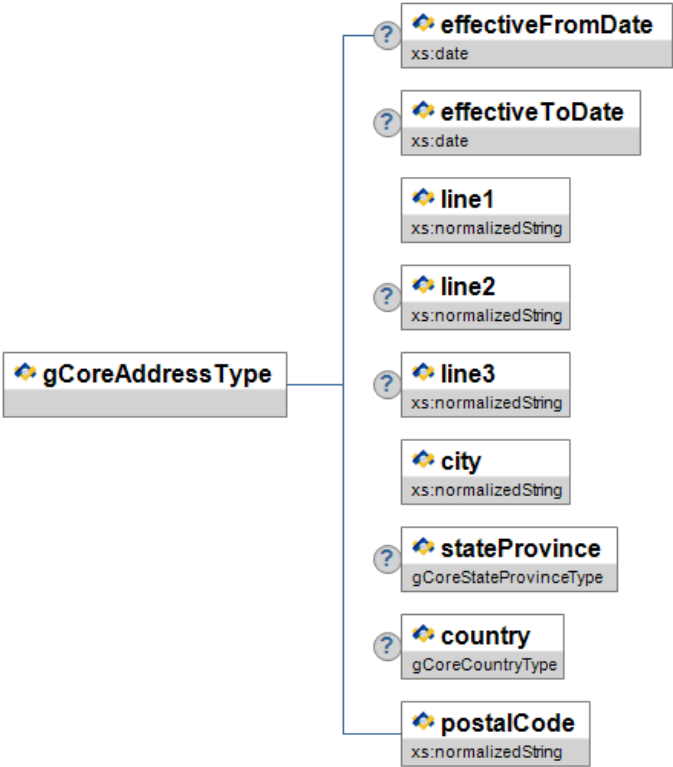


Figure A.50-1: gCoreAddressType

Element/@Attribute	Char	Description	Type
gCoreAddressType	M	This element contains address data.	
effectiveFromDate	O	Date the address became valid.	xs:date
effectiveToDate	O	Date the address ceases to be valid.	xs:date
line1	M	Address line 1.	xs:normalizedString
line2	O	Address line 2.	xs:normalizedString
line3	O	Address line 3.	xs:normalizedString
city	M	The city or Suburb part of the address.	xs:normalizedString
stateProvince	C	The state or province or county.	gCoreStateProvinceType
country	O	The country code.	gCoreCountryType
postalCode	M	The ZIP/postal code.	xs:normalizedString

Table A.50-1: gCoreAddressType

JSON

```
{ "sample": "1 IBM Plaza Suite 2000 Plaza Square Chicago WA USA 60611" }
```

XML

```
<address>
  <line1>1 IBM Plaza</line1>
  <line2>Suite 2000</line2>
  <line3>Plaza Square</line3>
  <city>Chicago</city>
  <stateProvince>WA</stateProvince>
  <country>USA</country>
  <postalCode>60611</postalCode>
</address>
```

Example A.50-1: gCoreAddress Example

A.51 gCoreContactInfoType

Common element used to supply information for a contact person at a school, LEA, or other institution.

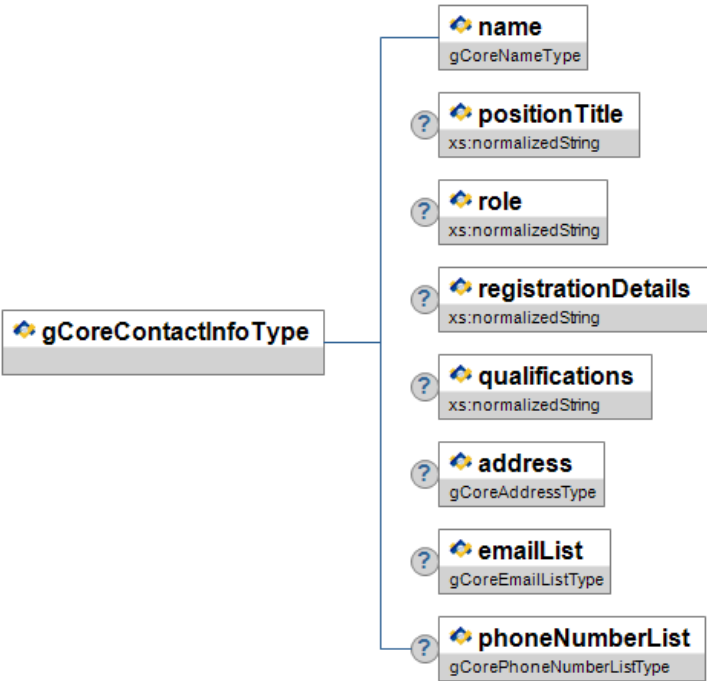


Figure A.51-1: gCoreContactInfoType

Element/@Attribute	Char	Description	Type
gCoreContactInfoType		Common element used to supply information for a contact person at a school, LEA, or other institution.	
name	M		gCoreNameType



Element/@Attribute	Char	Description	Type
positionTitle	O	The contact person's position title.  Examples Superintendent	xs:normalizedString
role	O	Role played by this contact in this instance.  Examples Report Contact Primary Contact Alternate Contact	xs:normalizedString
registrationDetails	O	Registration Details of the Contact.	xs:normalizedString
qualifications	O	Qualifications of the Contact.	xs:normalizedString
address	O	Address of the contact.	gCoreAddressType
emailList	O	List of Email elements.	gCoreEmailListType
phoneNumberList	O	List of PhoneNumber elements.	gCorePhoneNumberListType

Table A.51-1: gCoreContactInfoType

JSON

```
{ "sample": "  
  Woodall  
  Charles  
  William  
  
  Superintendent  
  
  drseuss@whoville.k12.state.us  
  
  (02) 9555-0102  
  
" }
```

XML

```
<ContactInfo>  
  <name>  
    <familyName>Woodall</familyName>  
    <givenName>Charles</givenName>  
    <otherGivenNames>William</otherGivenNames>  
  </name>  
  <positionTitle>Superintendent</positionTitle>  
  <emailList>  
    <email>drseuss@whoville.k12.state.us</email>  
  </emailList>  
  <phoneNumberList>  
    <phoneNumber>  
      <number>(02) 9555-0102</number>  
    </phoneNumber>  
  </phoneNumberList>  
</ContactInfo>
```

Example A.51-1: gCoreContactInfo

A.52 gCoreContactListType

List of Contacts associated with an entity.



Figure A.52-1: gCoreContactListType

Element/@Attribute	Char	Description	Type
gCoreContactListType		List of Contacts associated with an entity.	List
contact	MR		gCoreContactInfoType

Table A.52-1: gCoreContactListType

JSON

```
{ "sample": "  
  
  Woodall  
  Charles  
  William  
  
  Superintendent  
  
  drseuss@whoville.k12.state.us  
  
  
  (02) 9555-0102  
  
" }
```

XML

```
<contactList>  
  <contact>  
    <name>  
      <familyName>Woodall</familyName>  
      <givenName>Charles</givenName>  
      <otherGivenNames>William</otherGivenNames>  
    </name>  
    <positionTitle>Superintendent</positionTitle>  
    <emailList>  
      <email>drseuss@whoville.k12.state.us</email>  
    </emailList>  
    <phoneNumberList>  
      <phoneNumber>  
        <number>(02) 9555-0102</number>  
      </phoneNumber>  
    </phoneNumberList>  
  </contact>  
</contactList>
```

Example A.52-1: gCoreContactList

A.53 gCoreCountryType

A country code or name.



Figure A.53-1: gCoreCountryType

Element/@Attribute	Char	Description	Type
gCoreCountryType		A country code or name.	xs:normalizedString

Table A.53-1: gCoreCountryType

JSON

```
{ "sample": "Australia" }
```

XML

```
<country>Australia</country>
```

Example A.53-1: gCoreCountryType

A.54 gCoreEmailListType

A list of e-mail addresses associated with an individual or organization.

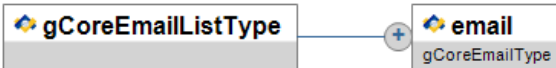


Figure A.54-1: gCoreEmailListType

Element/@Attribute	Char	Description	Type
gCoreEmailListType		A list of e-mail addresses associated with an individual or organization.	List
email	MR	The email address.	gCoreEmailType

Table A.54-1: gCoreEmailListType

JSON

```
{ "sample": "  
  contact@sifinfo.org  
  info@sifinfo.org  
"  
}
```

XML

```
<emaillist>  
  <email>contact@sifinfo.org</email>  
  <email>info@sifinfo.org</email>  
</emaillist>
```

Example A.54-1: gCoreEmailListType

A.55 gCoreEmailType

This element represents an e-mail address of one of a number of types and occurs in objects such as StudentPersonal, StaffPersonal, StudentContactPersonal, etc..

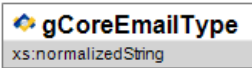


Figure A.55-1: gCoreEmailType

Element/@Attribute	Char	Description	Type
gCoreEmailType	M	This element represents an e-mail address of one of a number of types and occurs in objects such as StudentPersonal, StaffPersonal, StudentContactPersonal, etc..	xs:normalizedString

Table A.55-1: gCoreEmailType

JSON

```
{ "sample": "contact@sifinfo.org" }
```

XML

```
<email>contact@sifinfo.org</email>
```

Example A.55-1: gCoreEmailType

A.56 gCoreGenderType



Figure A.56-1: gCoreGenderType

Element/@Attribute	Char	Description	Type
gCoreGenderType			values: M Male F Female X Non-binary/Intersex U Unknown/Not-defined

Table A.56-1: gCoreGenderType

A.57 gCoreLocalIdType

This is a common element used to define the locally assigned identifier associated with an entity.



Figure A.57-1: gCoreLocalIdType

Element/@Attribute	Char	Description	Type
gCoreLocalIdType		This is a common element used to define the locally assigned identifier associated with an entity.	xs:normalizedString

Table A.57-1: gCoreLocalIdType

JSON

```
{ "sample": "123321A" }
```

XML

```
<localId>123321A</localId>
```

Example A.57-1: gCoreLocalId Example

A.58 gCoreNameType

Core Name Type or Name elements, primarily to allow structure to be leveraged with different Type attribute values.

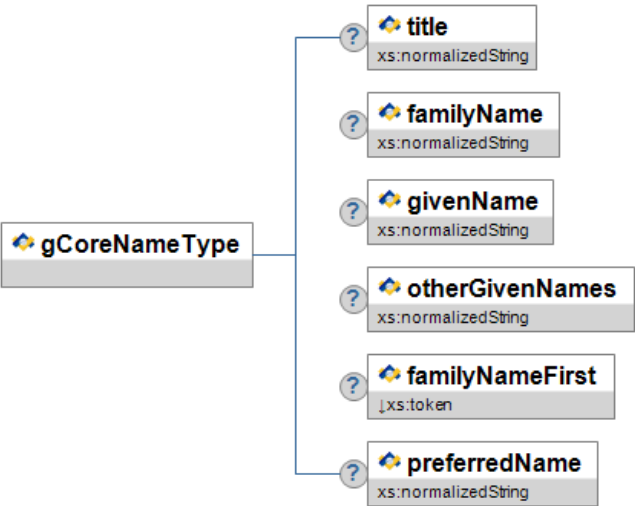


Figure A.58-1: gCoreNameType

Element/@Attribute	Char	Description	Type
gCoreNameType		Core Name Type or Name elements, primarily to allow structure to be leveraged with different type attribute values.	
title	O	A title or prefix associated with the name. If any of: Mr, Mrs, Ms, Miss, Rev, Fr, Dr, Prof, Hon, Sir, Lord, Lady - these must be as shown, otherwise free text. Note that title is not applicable to learners.	xs:normalizedString
familyName	C	Family name. That part of the person's name which is used to describe family, clan, tribal group, or marital association. Note that this element is required when known. However, it may not be possible to know the family name in which case you should add the available information to the FullName element.	xs:normalizedString
givenName	C	Given name of the person. Note that this element is required if known. However, it may not be possible to know the given name in which case you should add the available information to the FullName element.	xs:normalizedString
otherGivenNames	O	All other given or middle names, each separated with a single space character.	xs:normalizedString
familyNameFirst	O	An indicator used to identify the naming conventions used by some predominantly non-European, ethnic or language groups and related to the display nature of a name.	values: Y N
preferredName	O	The given name preferred most by the person (as written).	xs:normalizedString

Table A.58-1: gCoreNameType

JSON

```
{
  "sample": "
    Wesson
    Melanie
    Joan
    N
    Mel Wesson
  "
}
```

XML

```
<name>
  <familyName>Wesson</familyName>
  <givenName>Melanie</givenName>
  <otherGivenNames>Joan</otherGivenNames>
  <familyNameFirst>N</familyNameFirst>
  <preferredName>Mel Wesson</preferredName>
</name>
```

Example A.58-1: gCoreName

A.59 gCorePhoneNumberListType

Lists phone numbers associated with an entity.



Figure A.59-1: gCorePhoneNumberListType

Element/@Attribute	Char	Description	Type
gCorePhoneNumberListType		Lists phone numbers associated with an entity.	List
phoneNumber	MR		gCorePhoneNumberType

Table A.59-1: gCorePhoneNumberListType

JSON

```
{ "sample": "
  (03) 9543 2000
" }
```

XML

```
<phoneNumberList>
  <phoneNumber>
    <number>(03) 9543 2000</number>
  </phoneNumber>
</phoneNumberList>
```

Example A.59-1: gCorePhoneNumberList

A.60 gCorePhoneNumberType

This element represents a phone number and occurs within objects such as StudentPersonal, StaffPersonal, etc.

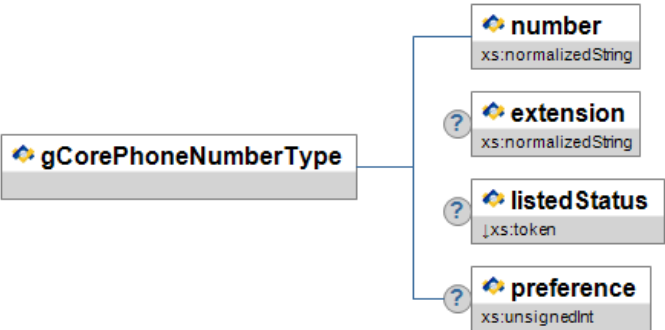


Figure A.60-1: gCorePhoneNumberType

Element/@Attribute	Char	Description	Type
gCorePhoneNumberType		This element represents a phone number and occurs within objects such as StudentPersonal, StaffPersonal, etc.	
number	M	Phone number. Free-form, but typical Australian formats include: <ul style="list-style-type: none"><li>• (###) ####-####</li><li>• ####-####</li><li>• +##### ### ###</li></ul>	xs:normalizedString
extension	O	Phone number extension.	xs:normalizedString
listedStatus	O	Indicates whether or not the phone number is available to the public.	values: Y N
preference	O	Preference number indicating an order in which phone numbers should be used when contacting person.	xs:unsignedInt

Table A.60-1: gCorePhoneNumberType

JSON

```
{ "sample": "
(03) 9543 2000
245
1
" }
```


XML

```
<phoneNumber>
<number>(03) 9543 2000</number>
<extension>245</extension>
<preference>1</preference>
</phoneNumber>
```

Example A.60-1: gCorePhoneNumber

A.61 gCoreStateProvinceIdType

The identifier for this entity as assigned by the state or province.

 **gCoreStateProvinceIdType**

xs:normalizedString

Figure A.61-1: gCoreStateProvinceIdType

Element/@Attribute	Char	Description	Type
gCoreStateProvinceIdType		The identifier for this entity as assigned by the state or province.	xs:normalizedString

Table A.61-1: gCoreStateProvinceIdType

A.62 gCoreStateProvinceType

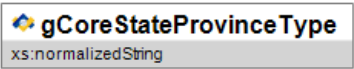


Figure A.62-1: gCoreStateProvinceType

Element/@Attribute	Char	Description	Type
gCoreStateProvinceType		A state or province code. Note: When dealing with countries other than Australia, state/province codes/values other than those referenced here can be used.	xs:normalizedString

Table A.62-1: gCoreStateProvinceType

JSON

```
{ "sample": "ACT" }
```

XML

```
<stateProvince>ACT</stateProvince>
```

Example A.62-1: gCoreStateProvinceType

A.63 infrastructureServiceNamesType



Figure A.63-1: infrastructureServiceNamesType

Element/@Attribute	Char	Description	Type
infrastructureServiceNamesType	O		values: environment provisionRequests requestsConnector eventsConnector queues subscriptions servicesConnector responsesConnector

Table A.63-1: infrastructureServiceNamesType

A.64 infrastructureServicesType



Figure A.64-1: infrastructureServicesType

Element/@Attribute	Char	Description	Type
infrastructureServicesType			List
infrastructureService	MR minOccurs="2"	There must be an InfrastructureService element present for each defined Infrastructure Service. The value of each InfrastructureService Property value subelement defines the URL location of that Infrastructure Service.	infrastructureServiceType

Table A.64-1: infrastructureServicesType



A.65 infrastructureServiceType



Figure A.65-1: infrastructureServiceType

Element/@Attribute	Char	Description	Type
infrastructureServiceType			xs:normalizedString
@ name	O		infrastructureServiceNamesType values: environment provisionRequests requestsConnector eventsConnector queues subscriptions servicesConnector responsesConnector

Table A.65-1: infrastructureServiceType

A.66 initializationType

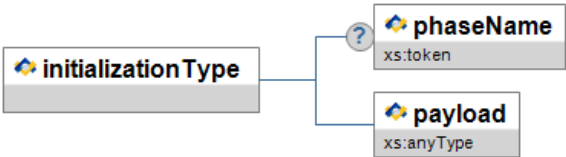


Figure A.66-1: initializationType

Element/@Attribute	Char	Description	Type
initializationType			
phaseName	O nillable="false"	Name of initialization phase the payload corresponds to.	xs:token
payload	M	Information matching the initialization phase, should result in corresponding phase having an INPROGRESS, COMPLETED, or FAILED state.	xs:anyType

Table A.66-1: initializationType

A.67 jobStateType



Figure A.67-1: jobStateType

Element/@Attribute	Char	Description	Type
jobStateType	O		values: NOTSTARTED INPROGRESS COMPLETED FAILED

Table A.67-1: jobStateType

A.68 lawListType

A list of parties and data sharing permissions.

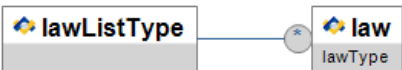


Figure A.68-1: lawListType

Element/@Attribute	Char	Description	Type
lawListType		A list of parties and data sharing permissions.	List
law	OR	A law that applies to this contract.	lawType

Table A.68-1: lawListType

A.69 lawType

Information about the specific law.

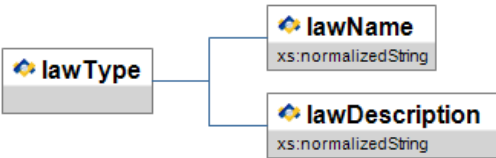


Figure A.69-1: lawType

Element/@Attribute	Char	Description	Type
lawType		Information about the specific law.	
lawName	M	The name of the law support is being included for.	xs:normalizedString
lawDescription	M	A simplified representation of a law, designed to communicate its intent to any member of the public.	xs:normalizedString

Table A.69-1: lawType

A.70 legalRequirementsType

Contains a list of the legal clauses within the contract.

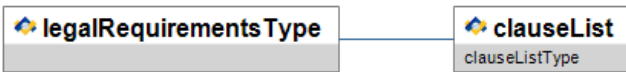


Figure A.70-1: legalRequirementsType

Element/@Attribute	Char	Description	Type
legalRequirementsType		Contains a list of the legal clauses within the contract.	

Element/@Attribute	Char	Description	Type
clauseList	M	A list of the legal clauses within the contract.	clauseListType

Table A.70-1: legalRequirementsType

A.71 mediaTypesType



Figure A.71-1: mediaTypesType

Element/@Attribute	Char	Description	Type
mediaTypesType			List
mediaType	MR	An Internet Media Type supported by this adaptor (for this service).	xs:token

Table A.71-1: mediaTypesType

A.72 messageTypeType

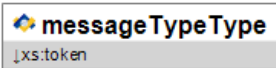


Figure A.72-1: messageTypeType

Element/@Attribute	Char	Description	Type
messageTypeType	O		values: EVENT REQUEST

Table A.72-1: messageTypeType

A.73 methodParametersType



Figure A.73-1: methodParametersType

Element/@Attribute	Char	Description	Type
methodParametersType			List
methodParameter	MR	Individual setting	methodParameterType

Table A.73-1: methodParametersType

A.74 methodParameterType

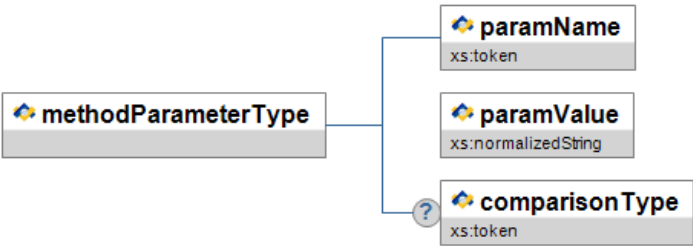


Figure A.74-1: methodParameterType

Element/@Attribute	Char	Description	Type
methodParameterType			
paramName	M	The name of the parameter being passed in.	xs:token
paramValue	M	The value of the parameter being passed in.	xs:normalizedString
comparisonType	O nillable="false"	The operation used to make the comparison. If not provided EQUAL is assumed.	xs:token

Table A.74-1: methodParameterType

A.75 obligationListType

A list of requirements imposed by the contract.



Figure A.75-1: obligationListType

Element/@Attribute	Char	Description	Type
obligationListType		A list of requirements imposed by the contract.	list
obligation	OR	A requirement imposed by the contract.	obligationType

Table A.75-1: obligationListType

A.76 obligationType

A requirement imposed by the contract.

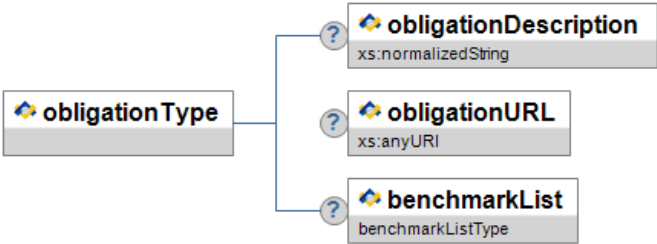


Figure A.76-1: obligationType

Element/@Attribute	Char	Description	Type
obligationType		A requirement imposed by the contract.	
obligationDescription	O	The narrative of an individual requirement imposed by the contract.	xs:normalizedString
obligationURL	O	The URL pointing to the official definition of a requirment imposed by the contract.	xs:anyURI
benchmarkList	O	A list of benchmarks associated with the obligation.	benchmarkListType

Table A.76-1: obligationType

A.77 operationsType



Figure A.77-1: operationsType

Element/@Attribute	Char	Description	Type
operationsType			List
operation	MR		operationType values: QUERY CREATE UPDATE DELETE

Table A.77-1: operationsType

A.78 operationType

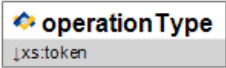


Figure A.78-1: operationType

Element/@Attribute	Char	Description	Type
operationType			values: QUERY CREATE UPDATE DELETE

Table A.78-1: operationType

A.79 parametersType



Figure A.79-1: parametersType

Element/@Attribute	Char	Description	Type
parametersType			List

Element/@Attribute	Char	Description	Type
parameter	OR	Individual setting	parameterType

Table A.79-1: parametersType

A.80 parameterType

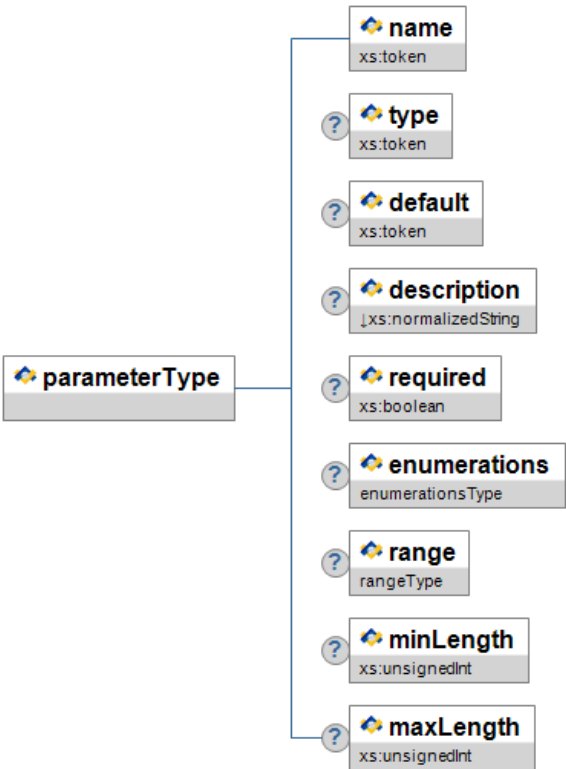


Figure A.80-1: parameterType

Element/@Attribute	Char	Description	Type				
parameterType							
name	M	The name of the query parameter to be passed in. Note: Must not conflict with any other query parameter name.	xs:token				
type	O nillable="false"	A well understood type that MAY be used for parameter validation. Example: xs:unsignedInt.	xs:token				
default	O nillable="false"	Value to be supplied for this parameter if the submitter omits it.	xs:token				
description	O nillable="false"	An explanation of what this parameter represents.	xs:normalizedString <table><tr><td>xs:minLength</td><td>0</td></tr><tr><td>xs:maxLength</td><td>1024</td></tr></table>	xs:minLength	0	xs:maxLength	1024
xs:minLength	0						
xs:maxLength	1024						
required	O nillable="false"	Indicator as to if this parameter is required. If omitted, the parameter is assumed to be required!.	xs:boolean				

Element/@Attribute	Char	Description	Type
enumerations	O nillable="false"		enumerationsType
range	O nillable="false"		rangeType
minLength	O nillable="false"	The minimum length for values of this parameter. If omitted, zero. May be functionally different because of other restrictions.	xs:unsignedInt
maxLength	O nillable="false"	The maximum length for values of this parameter. If omitted, unbounded. May be functionally different because of other restrictions.	xs:unsignedInt

Table A.80-1: parameterType

A.81 partyToDeleteDataType

Who is responsible for deletion of this data?

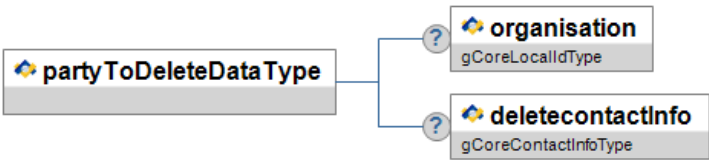


Figure A.81-1: partyToDeleteDataType

Element/@Attribute	Char	Description	Type
partyToDeleteDataType		Who is responsible for deletion of this data?	
organisation	O	The group responsible for ensuring the data is removed when required.	gCoreLocalIdType
deletecontactInfo	O		gCoreContactInfoType

Table A.81-1: partyToDeleteDataType

A.82 passwordEmployeeAccessStandardType



Figure A.82-1: passwordEmployeeAccessStandardType

Element/@Attribute	Char	Description	Type
passwordEmployeeAccessStandardType			
standardName	O	The label of rule set for the processor used to define valid passwords.	xs:normalizedString

Element/@Attribute	Char	Description	Type
standardURL	O	A link to an authoritative source for this standard.	xs:anyURI

Table A.82-1: passwordEmployeeAccessStandardType

A.83 phaseCollectionType



Figure A.83-1: phaseCollectionType

Element/@Attribute	Char	Description	Type
phaseCollectionType			List
phase	MR		phaseType

Table A.83-1: phaseCollectionType

A.84 phaseStateType



Figure A.84-1: phaseStateType

Element/@Attribute	Char	Description	Type
phaseStateType	O		values: NOTAPPLICABLE NOTSTARTED PENDING SKIPPED INPROGRESS COMPLETED FAILED

Table A.84-1: phaseStateType

A.85 phaseType

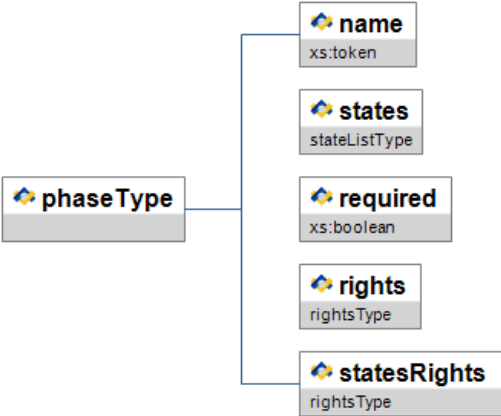


Figure A.85-1: phaseType

Element/@Attribute	Char	Description	Type
phaseType			



Element/@Attribute	Char	Description	Type
name	M	The name of the Phase unique within the context of the owning job.	xs:token
states	M	A collection of the states the Phase has been through, must initially contain a NOTAPPLICABLE or NOTSTARTED state.	stateListType
required	M	Whether or not this phase is required for the job to complete successfully.	xs:boolean
rights	M	Access rights given to the consumer for this phase.	rightsType
statesRights	M	Access rights given to the consumer for each state.	rightsType

Table A.85-1: phaseType

A.86 privacyListType

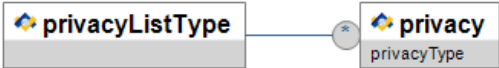


Figure A.86-1: privacyListType

Element/@Attribute	Char	Description	Type
privacyListType			List
privacy	OR		privacyType

Table A.86-1: privacyListType

A.87 privacyObligationsDocumentType

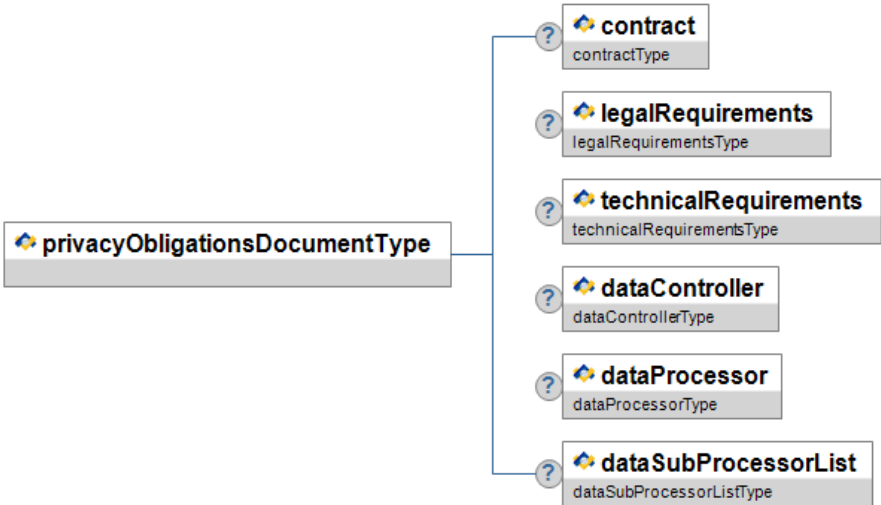


Figure A.87-1: privacyObligationsDocumentType

Element/@Attribute	Char	Description	Type
privacyObligationsDocumentType			
contract	O	The details of the contract the POD has been derived from.	contractType
legalRequirements	O	Legal Requirements Container.	legalRequirementsType
technicalRequirements	O	Technical Requirements Container.	technicalRequirementsType
dataController	O	The data controller, means the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data, see GDPR.	dataControllerType
dataProcessor	O	The data processor, means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller, see GDPR.	dataProcessorType
dataSubProcessorList	O	The list of data sub-Processors who are the bodies that process data on behalf of the Data Processor.	dataSubProcessorListType

Table A.87-1: privacyObligationsDocumentType

## A.88 privacyType

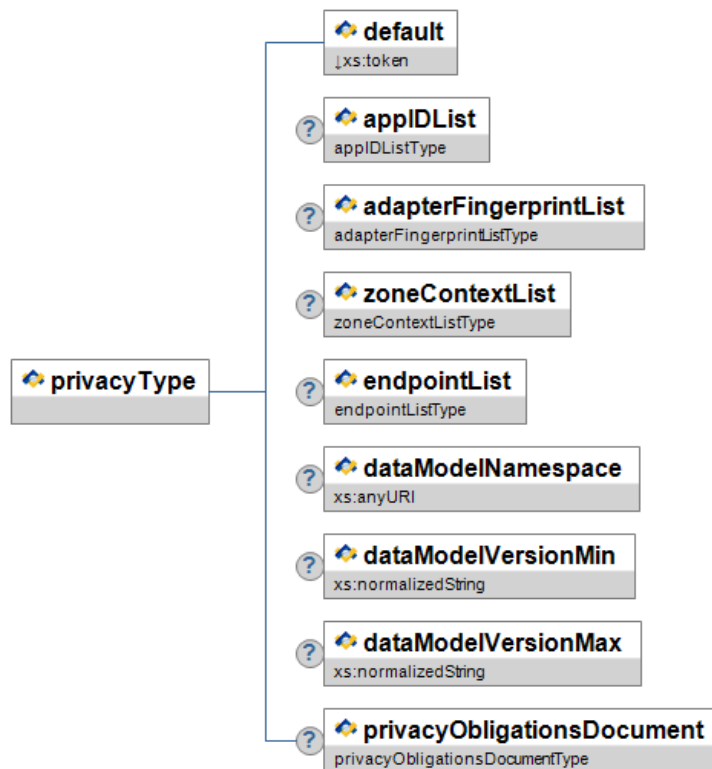


Figure A.88-1: privacyType

Element/@Attribute	Char	Description	Type
privacyType		.	
default	M	Is this the default privacy template?	values: Y N
appIDList	O	The list of applications in this contract.	appIDListType
adapterFingerprintList	O	A list of fingerprints.	adapterFingerprintListType
zoneContextList	O	A list zones and contexts where this POD applies.	zoneContextListType
endpointList	O	A list of endpoints that are covered by this POD.	endpointListType
dataModelNamespace	O	Namespace associated with the relevant datamodel.	xs:anyURI
dataModelVersionMin	O	Minimum data model version.	xs:normalizedString
dataModelVersionMax	O	Maximum data model version.	xs:normalizedString
privacyObligationsDocument	O	The legal and technical requirements that are required to be met to satisfy privacy and security concerns.	privacyObligationsDocumentType

Table A.88-1: privacyType

A.89 productIdentityType

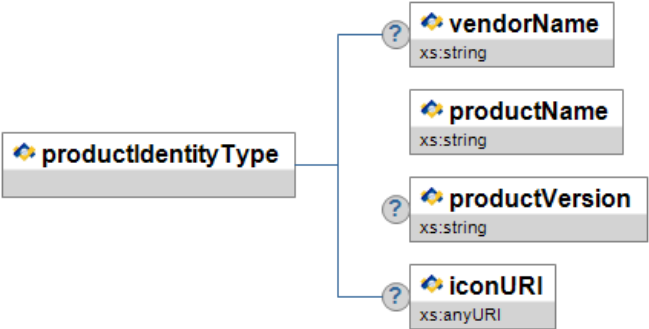


Figure A.89-1: productIdentityType

Element/@Attribute	Char	Description	Type
productIdentityType			
vendorName	O nillable="false"	The name of the company supplying this Product.	xs:string

Element/@Attribute	Char	Description	Type
productName	M	The name of the Product	xs:string
productVersion	O nillable="false"	The format of this field is undefined, but it should match the format used in the agent's conformance statement, if the agent is SIF Certified.	xs:string
iconURI	O nillable="false"	HTTP URL referencing an icon for graphical representation of the application/agent. Should range from 16x16 pixels to 128x128 pixels and be of an image MIME type commonly supported by Web browsers (e.g. PNG, JPEG, GIF).	xs:anyURI

Table A.89-1: productIdentityType

A.90 propertiesType



Figure A.90-1: propertiesType

Element/@Attribute	Char	Description	Type
propertiesType			List
property	MR	Individual setting	propertyType

Table A.90-1: propertiesType

A.91 propertyNVListType

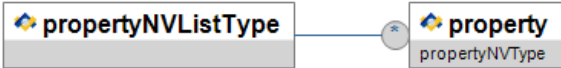


Figure A.91-1: propertyNVListType

Element/@Attribute	Char	Description	Type
propertyNVListType			List
property	OR		propertyNVType

Table A.91-1: propertyNVListType

A.92 propertyNVType

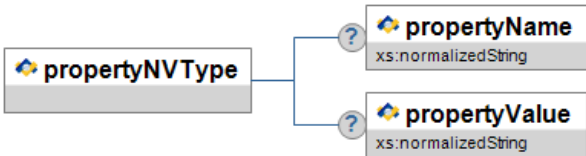


Figure A.92-1: propertyNVType

Element/@Attribute	Char	Description	Type
propertyNVType			
propertyName	O	A short label meant to convey quick meaning of the machine readable expression.	xs:normalizedString
propertyValue	O	A machine readable expression designed to specify one aspect of the condition for machine enforcement.	xs:normalizedString

Table A.92-1: propertyNVType

A.93 propertyType



Figure A.93-1: propertyType

Element/@Attribute	Char	Description	Type
propertyType			xs:normalizedString
@ name	M	Name/Value pair.	xs:string

Table A.93-1: propertyType

A.94 protocolType

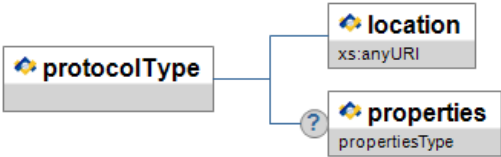


Figure A.94-1: protocolType

Element/@Attribute	Char	Description	Type
protocolType			
location	M	The URL to use when sending Requests to a Provider	xs:anyURI
properties	O	May contain zero or more property elements containing name/value pairs describing any protocol settings required to ensure proper communication	propertiesType

Table A.94-1: protocolType

A.95 provisionedZonesType



Figure A.95-1: provisionedZonesType

Element/@Attribute	Char	Description	Type
provisionedZonesType			List
provisionedZone	MR	A specific Zone defined for this environment.	provisionedZoneType

Table A.95-1: provisionedZonesType

JSON

```
{ "sample": "  
  
    UNSUPPORTED  
    APPROVED  
    UNSUPPORTED  
    UNSUPPORTED  
    REJECTED  
  
    APPROVED  
    SUPPORTED  
    SUPPORTED  
    REJECTED  
    APPROVED  
    REJECTED  
  
" }
```

XML

```
<provisionedZones>  
  <provisionedZone id="environment-global">  
    <services>  
      <service type="UTILITY" name="alerts" contextId="DEFAULT">  
        <rights>  
          <right type="QUERY">UNSUPPORTED</right>  
          <right type="CREATE">APPROVED</right>  
          <right type="UPDATE">UNSUPPORTED</right>  
          <right type="DELETE">UNSUPPORTED</right>  
          <right type="SUBSCRIBE">REJECTED</right>  
        </rights>  
      </service>  
    </services>  
  </provisionedZone>  
  <provisionedZone id="SuffolkMiddleSchool">  
    <services>  
      <service type="OBJECT" name="students" contextId="DEFAULT">  
        <rights>  
          <right type="QUERY">APPROVED</right>  
          <right type="CREATE">SUPPORTED</right>  
          <right type="UPDATE">SUPPORTED</right>  
          <right type="DELETE">REJECTED</right>  
          <right type="SUBSCRIBE">APPROVED</right>  
          <right type="PROVIDE">REJECTED</right>  
        </rights>  
      </service>  
    </services>  
  </provisionedZone>  
</provisionedZones>
```

Example A.95-1: provisionedZones

A.96 provisionedZoneType

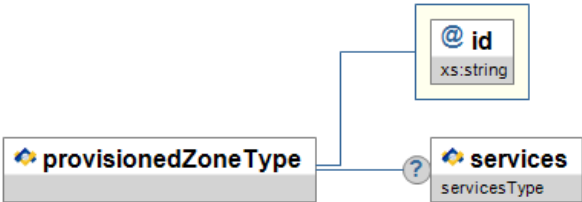


Figure A.96-1: provisionedZoneType

Element/@Attribute	Char	Description	Type
provisionedZoneType			
@id	M	The unique id of the Zone, and the key to the Zone element in the Zone Registry.	xs:string
services	O nillable="false"		servicesType

Table A.96-1: provisionedZoneType

A.97 purposeListType

A list of the purposes for which data is may be used.

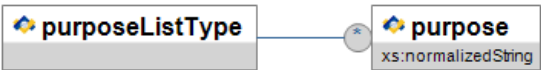


Figure A.97-1: purposeListType

Element/@Attribute	Char	Description	Type
purposeListType		A list of the purposes for which data is may be used.	List
purpose	OR	The purpose for which data may be used.	xs:normalizedString

Table A.97-1: purposeListType

A.98 querySupportType

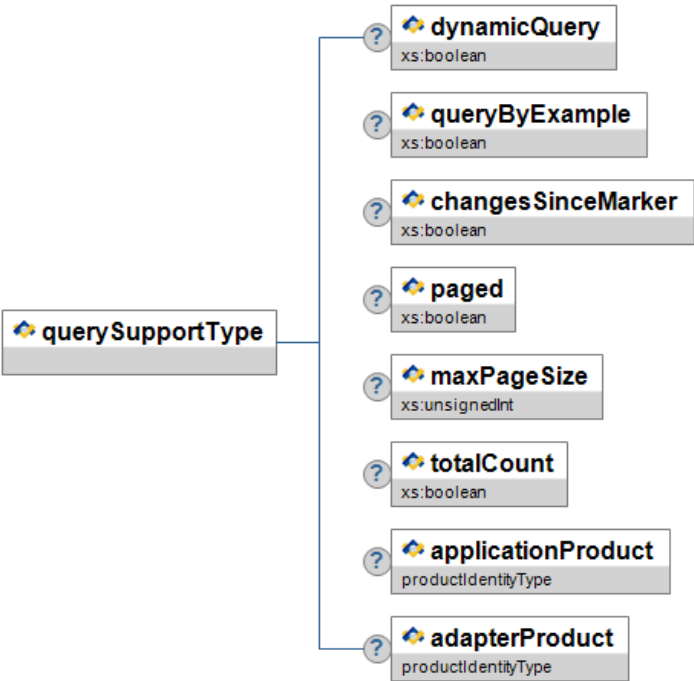


Figure A.98-1: querySupportType

Element/@Attribute	Char	Description	Type
querySupportType			

Element/@Attribute	Char	Description	Type
dynamicQuery	O nillable="false"	True if this service is capable of honoring the "where" parameter.	xs:boolean
queryByExample	O nillable="false"	True if this service is capable of honoring query by example payloads.	xs:boolean
changesSinceMarker	O nillable="false"	True if this service is capable of supporting Changes Since Queries.	xs:boolean
paged	O nillable="false"	True if this service is capable of responding to Paged Query Requests (both Interactive and Batch).	xs:boolean
maxPageSize	C nillable="false"	If Paged Queries are supported, this is the maximum number of Objects that will be returned on a Page of Query results.	xs:unsignedInt
totalCount	O nillable="false"		xs:boolean
applicationProduct	C nillable="false"	Application Vendor Identification	productIdentityType
adapterProduct	O nillable="false"	Adapter Vendor Identification	productIdentityType

Table A.98-1: querySupportType

A.99 rangeType

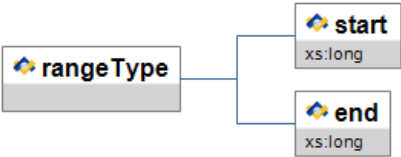


Figure A.99-1: rangeType

Element/@Attribute	Char	Description	Type
rangeType			
start	M	If a numeric range is used, this holds the inclusive starting value.	xs:long
end	M	If a numeric range is used, this holds the inclusive ending value.	xs:long

Table A.99-1: rangeType

A.100 requestTypeValueType

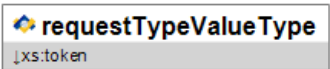


Figure A.100-1: requestTypeValueType



Element/@Attribute	Char	Description	Type
requestTypeValueType			values:  IMMEDIATE DELAYED

Table A.100-1: requestTypeValueType

A.101 rightsType



Figure A.101-1: rightsType

Element/@Attribute	Char	Description	Type
rightsType			List
right	MR		rightType

Table A.101-1: rightsType

A.102 rightType



Figure A.102-1: rightType

Element/@Attribute	Char	Description	Type
rightType			rightValueType values:  APPROVED SUPPORTED REJECTED UNSUPPORTED REQUESTED
@ type	M	The type of the requested Access Right	rightTypeType values:  QUERY CREATE UPDATE DELETE SUBSCRIBE PROVIDE

Table A.102-1: rightType

A.103 rightTypeType

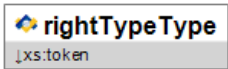


Figure A.103-1: rightTypeType

Element/@Attribute	Char	Description	Type
rightTypeType			values:  QUERY CREATE UPDATE DELETE SUBSCRIBE PROVIDE

Table A.103-1: rightTypeType

A.104 rightValueType



Figure A.104-1: rightValueType

Element/@Attribute	Char	Description	Type
rightValueType			values:  APPROVED SUPPORTED REJECTED UNSUPPORTED REQUESTED

Table A.104-1: rightValueType

A.105 securityTechnologyListType

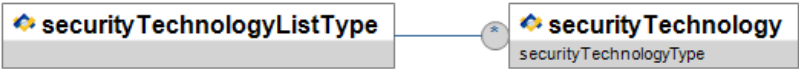


Figure A.105-1: securityTechnologyListType

Element/@Attribute	Char	Description	Type
securityTechnologyListType			List
securityTechnology	OR		securityTechnologyType

Table A.105-1: securityTechnologyListType

A.106 securityTechnologyType

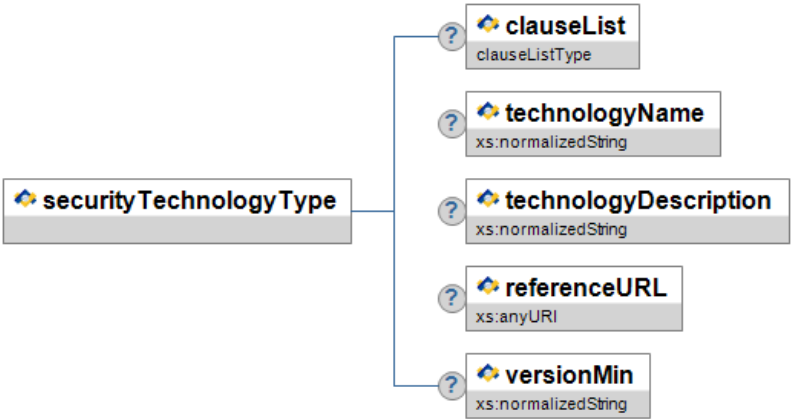


Figure A.106-1: securityTechnologyType

Element/@Attribute	Char	Description	Type
securityTechnologyType			
clauseList	O		clauseListType
technologyName	O	The name of the technology being utilized.	xs:normalizedString

Element/@Attribute	Char	Description	Type
technologyDescription	O	The narrative as to what the technology's role is in providing security.	xs:normalizedString
referenceURL	O		xs:anyURI
versionMin	O	The version at which the technology is considered sufficient to supply security for its applicable area.	xs:normalizedString

Table A.106-1: securityTechnologyType

A.107 securityTestRequiredListType



Figure A.107-1: securityTestRequiredListType

Element/@Attribute	Char	Description	Type
securityTestRequiredListType			List
securityTestRequired	OR	Details of the security test required.	securityTestRequiredType

Table A.107-1: securityTestRequiredListType

A.108 securityTestRequiredType

Details of the security test required.

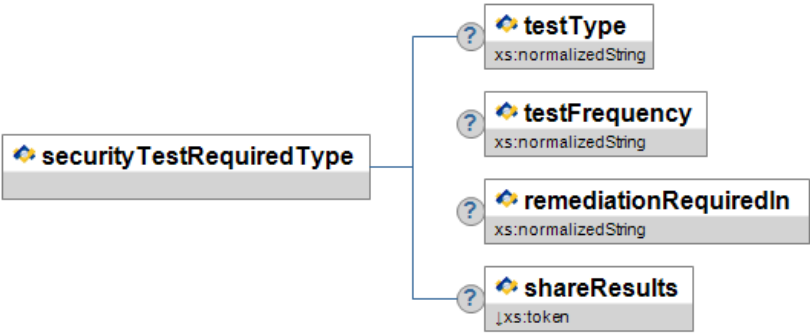


Figure A.108-1: securityTestRequiredType

Element/@Attribute	Char	Description	Type
securityTestRequiredType		Details of the security test required.	
testType	O	Type of the test.	xs:normalizedString
testFrequency	O	How often does this test need to be performed?	xs:normalizedString

Element/@Attribute	Char	Description	Type
remediationRequiredIn	O	Number of days allowed to remediate any inadequacies discovered during testing.	xs:normalizedString
shareResults	O	Determines whether the results of a security test may be made publicly known.	values: Y N

Table A.108-1: securityTestRequiredType

A.109 SelectedContentType

Allows an XML fragment selected from an object to be used in an element with XML validation skipped.



Figure A.109-1: SelectedContentType

Element/@Attribute	Char	Description	Type
SelectedContentType		Allows an XML fragment selected from an object to be used in an element with XML validation skipped.	<pre>&lt;xs:complexContent mixed="true"&gt;   &lt;xs:restriction base="xs:anyType"&gt;     &lt;xs:sequence&gt;       &lt;xs:any processContents="skip" minOccurs="0" maxOccurs="unbounded" /&gt;     &lt;/xs:sequence&gt;   &lt;/xs:restriction&gt; &lt;/xs:complexContent&gt;</pre>

Table A.109-1: SelectedContentType

A.110 servicesType



Figure A.110-1: servicesType

Element/@Attribute	Char	Description	Type
servicesType			List
service	MR		serviceType

Table A.110-1: servicesType

A.111 serviceSubTypeType

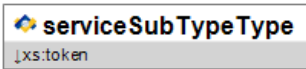


Figure A.111-1: serviceSubTypeType

Element/@Attribute	Char	Description	Type
serviceSubTypeType	O		values: adminDirective

Table A.111-1: serviceSubTypeType

A.112 serviceType



Figure A.112-1: serviceType

Element/@Attribute	Char	Description	Type
serviceType			
@ type	M		serviceTypeType values: UTILITY OBJECT FUNCTIONAL SERVICEPATH XQUERYTEMPLATE SERVICE
@ subType	O		serviceSubTypeType values: adminDirective
@ name	M	The name of the Service. For utilities, this is fixed to one of the defined set of Utility Service Names. For objects and functions, it is defined by the Data Model.	xs:string
@ contextId	M	The unique identity of a context element, which is associated with a Provider of this name and type operating in a Zone with this ID. All Services with the same name in the same Zone must have different Context IDs. Only one such Service can have no Context.	xs:string
rights	M		rightsType

Table A.112-1: serviceType

A.113 serviceTypeType

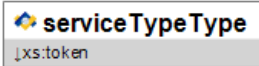


Figure A.113-1: serviceTypeType

Element/@Attribute	Char	Description	Type
serviceTypeType	O		values: UTILITY OBJECT FUNCTIONAL SERVICEPATH XQUERYTEMPLATE SERVICE

Table A.113-1: serviceTypeType

A.114 stateCommonType

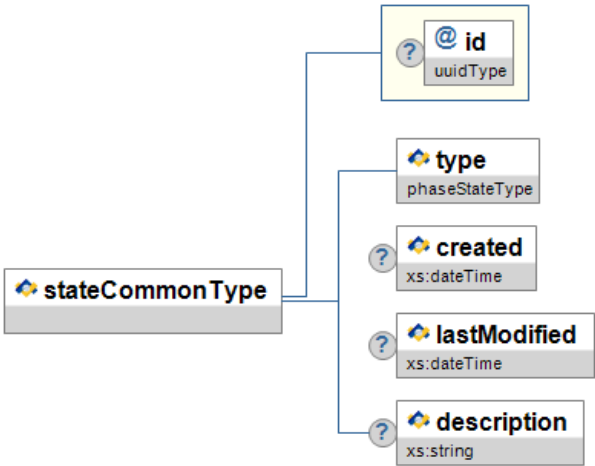


Figure A.114-1: stateCommonType

Element/@Attribute	Char	Description	Type
stateCommonType			
@ id	O		uuidType
type	M	The type of this State object.	phaseStateType values: NOTAPPLICABLE NOTSTARTED PENDING SKIPPED INPROGRESS COMPLETED FAILED
created	O nillable="false"	The datetime this job was created.	xs:dateTime
lastModified	O nillable="false"	The datetime this job was last modified.	xs:dateTime
description	O nillable="false"	A descriptive message elaborating the condition of this state, e.g. if the state is "FAILED" the stateDescription may be "Timeout occurred".	xs:string

Table A.114-1: stateCommonType

A.115 stateListType



Figure A.115-1: stateListType

Element/@Attribute	Char	Description	Type
stateListType			List
state	MR		stateCommonType

Table A.115-1: stateListType

A.116 supportedRequestsType



Figure A.116-1: supportedRequestsType

Element/@Attribute	Char	Description	Type
supportedRequestsType			List
supportedRequestType	MR	The request type and supported operations available for the related service as provided by the named provider.	supportedRequestType

Table A.116-1: supportedRequestsType

A.117 supportedRequestType

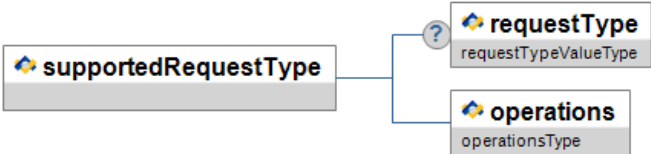


Figure A.117-1: supportedRequestType

Element/@Attribute	Char	Description	Type
supportedRequestType			
requestType	O nillable="false"	Relay an delayed request or turn it into an immediate call.	requestTypeValueType values: IMMEDIATE DELAYED
operations	M nillable="false"	The list of operations a request can target, such as CREATE.	operationsType

Table A.117-1: supportedRequestType

A.118 technicalRequirementsType

Details of technical requirements that need to be met to achieve the POD.

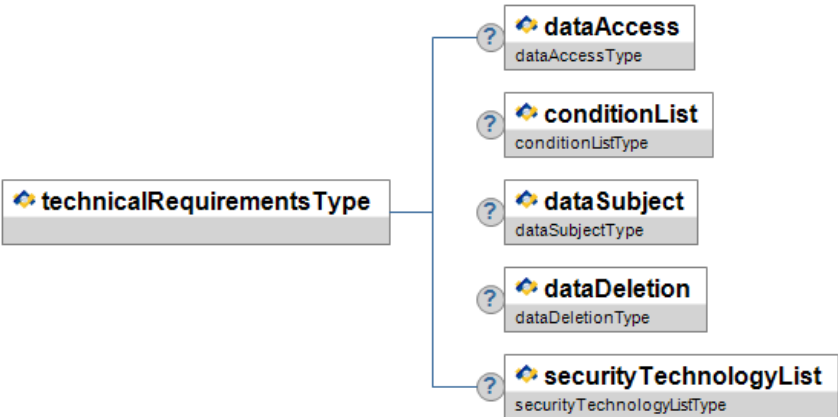


Figure A.118-1: technicalRequirementsType

Element/@Attribute	Char	Description	Type
technicalRequirementsType		Details of technical requirements that need to be met to achieve the POD.	
dataAccess	O	A list of the data that can be accessed and any rules that specifically apply.	dataAccessType

Element/@Attribute	Char	Description	Type
conditionList	O		conditionListType
dataSubject	O	The specific clauses obligations and benchmarks that applies to the subject - teacher, student or parent.	dataSubjectType
dataDeletion	O	Details and requirements for data deletion.	dataDeletionType
securityTechnologyList	O		securityTechnologyListType

Table A.118-1: technicalRequirementsType

A.119 updatesType



Figure A.119-1: updatesType

Element/@Attribute	Char	Description	Type
updatesType			List
update	MR		updateType

Table A.119-1: updatesType

A.120 updateType

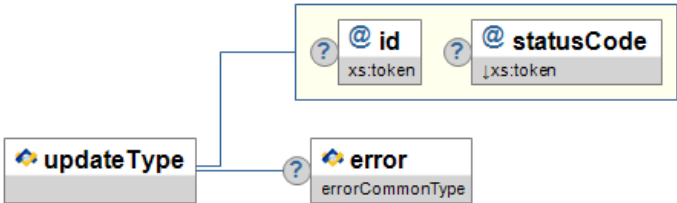


Figure A.120-1: updateType

Element/@Attribute	Char	Description	Type
updateType			
@ id	O		xs:token
@ statusCode	O		xs:token xs:pattern [24-5][0-9]{2}
error	O nillable="false"		errorCommonType

Table A.120-1: updateType

A.121 uriType

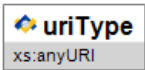


Figure A.121-1: uriType



Element/@Attribute	Char	Description	Type
uriType	O		xs:anyURI

Table A.121-1: uriType

A.122 uuidType



Figure A.122-1: uuidType

Element/@Attribute	Char	Description	Type
uuidType	O		xs:token <div>xs:pattern [a-fA-F0-9]{8}-[a-fA-F0-9]{4}-[14][a-fA-F0-9]{3}-[a-fA-F0-9]{4}-[a-fA-F0-9]{12}</div>

Table A.122-1: uuidType

A.123 versionType



Figure A.123-1: versionType

Element/@Attribute	Char	Description	Type
versionType	O		xs:token <div>xs:pattern [0-9]{1,3}[.][0-9]{1,3}([.][0-9]{1,3})?</div>

Table A.123-1: versionType

A.124 zoneContextListType



Figure A.124-1: zoneContextListType

Element/@Attribute	Char	Description	Type
zoneContextListType			List
zoneContext	OR		zoneContextType

Table A.124-1: zoneContextListType

A.125 zoneContextType

A Zone and/or Context related to a POD.

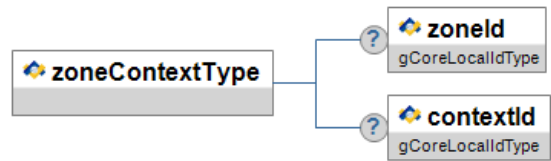


Figure A.125-1: zoneContextType

Element/@Attribute	Char	Description	Type
zoneContextType		A Zone and/or Context related to a POD.	
zoneld	O	Identifies the collection of appropriate data providers.	gCoreLocalIdType
contextId	O	Identifies the data scope within the zone.	gCoreLocalIdType

Table A.125-1: zoneContextType

## Appendix B: Code Sets

Select shared and named code sets defined in SIF are included here for reference.

### IN Code Sets






## Appendix C: External Code Sets

All code sets defined by external bodies and referenced within SIF are included here for reference. The left column in each table contains the individual code values that are used in SIF elements and attributes that reference these code sets. These sets of code values are closed and normative for a given version of this specification. Including codes not provided here in corresponding SIF elements and attributes can lead to XML validation errors in installations where the zone integration server or any agent is validating XML messages; the SIF data model allows for locally-defined codes, where deemed appropriate, in the `otherCodeList` element. The right column of each table may provide a textual equivalent or description of the corresponding code, and is provided for informational purposes only. The referenced sources for these code sets serve as the authorities for all descriptions and semantics, and for the definition and maintenance of the code set values themselves. In each release of this specification the SIF Association endeavors to synchronize referenced code sets with updates from external sources.

### International Standards Organization (ISO)

## Appendix D: Background/Supplementary Documentation (non-normative)

This appendix supplies background/supplementary documentation from working groups and task forces for interested readers, including but not limited to object plans, business/use cases, test plans, test results, background and best practice documentation. Last modified dates are included in parentheses.

-  [errata.pdf](#) (5/28/2025)
-  [InfrastructureDelta3\\_7.pdf](#) (10/2/2024)
-  [OpenAPI.zip](#) (5/28/2025)
-  [PESJSON.pdf](#) (1/3/2023)
-  [scripts.zip](#) (5/28/2025)

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