

## SIF NZ DATA MODEL – EDUCATION ORGANISATION OVERVIEW - v0.4

A primary goal for SIF New Zealand is to build a New Zealand flavour of SIF Data Model that is applicable in an education system that is focused on 'whole of life learning'.

The key education provider entity in other SIF locales (North America, United Kingdom & Australia) reflects SIF's historic concentration on K-12 education, and is named 'SchoolInfo'.

SIF NZ's focus on 'whole of life learning' replaces SchoolInfo with an organisation hierarchy containing the following entities:

- **Provider:** An organisation that provides education services in the New Zealand education system. Most Providers operate in one of the Early Childhood, Schooling or Tertiary sectors; some Provider operate in more than one sector.
- **Education Organisation:** A generic organisation that operates within the education sector; but doesn't provide education services. e.g. Communities of Learning | Kāhui Ako, Ministry local offices, Industry training organisations, etc.
- **Supplier:** Generic organisation that supplies non education products & services within the education sector. e.g. suppliers of relief teachers, property maintenance, etc.
- **Employer:** Generic organisation that acts as an employer in the provision of industry based training within the education sector.
- **Early Childhood Service:** A flavour of Provider that operates in the early childhood sector, providing education services to children aged between birth and 5 years old.
- **School Service:** A flavour of Provider that operates in the schooling sector, providing education services to children aged between 5 and 17 years old.
- **Tertiary Service:** A flavour of Provider that operates in the Tertiary sector, providing education services to learners who have completed education in the School sector.
- **Kāhui Ako | Community of Learning:** A collection of Provider organisations that form around children and young people's learning pathways, and work together to help them achieve their full potential.
- **MoE Local Office:** A regional office of the NZ Ministry of Education providing first tier ministry support to ECS Services, Schools, parents and the wider community.
- **Industry Training Organisation:** Generic organisation established by industry, to arrange workplace training within their industry, and work with tertiary education providers to set national skill standards, lead qualifications development, and play a central role in industry-related vocational education and training.
- **Other Training Institutions:** Institutions providing training outside of early childhood, school or tertiary sectors where teachers are able to work and still maintain their practising certificate (eg Watersafe Auckland). May be treated as generic Providers or Education Organisations depending on business requirement.

This hierarchy of education organisations is presented in Figure 1.

org chart Organisation Chart - Education Sector

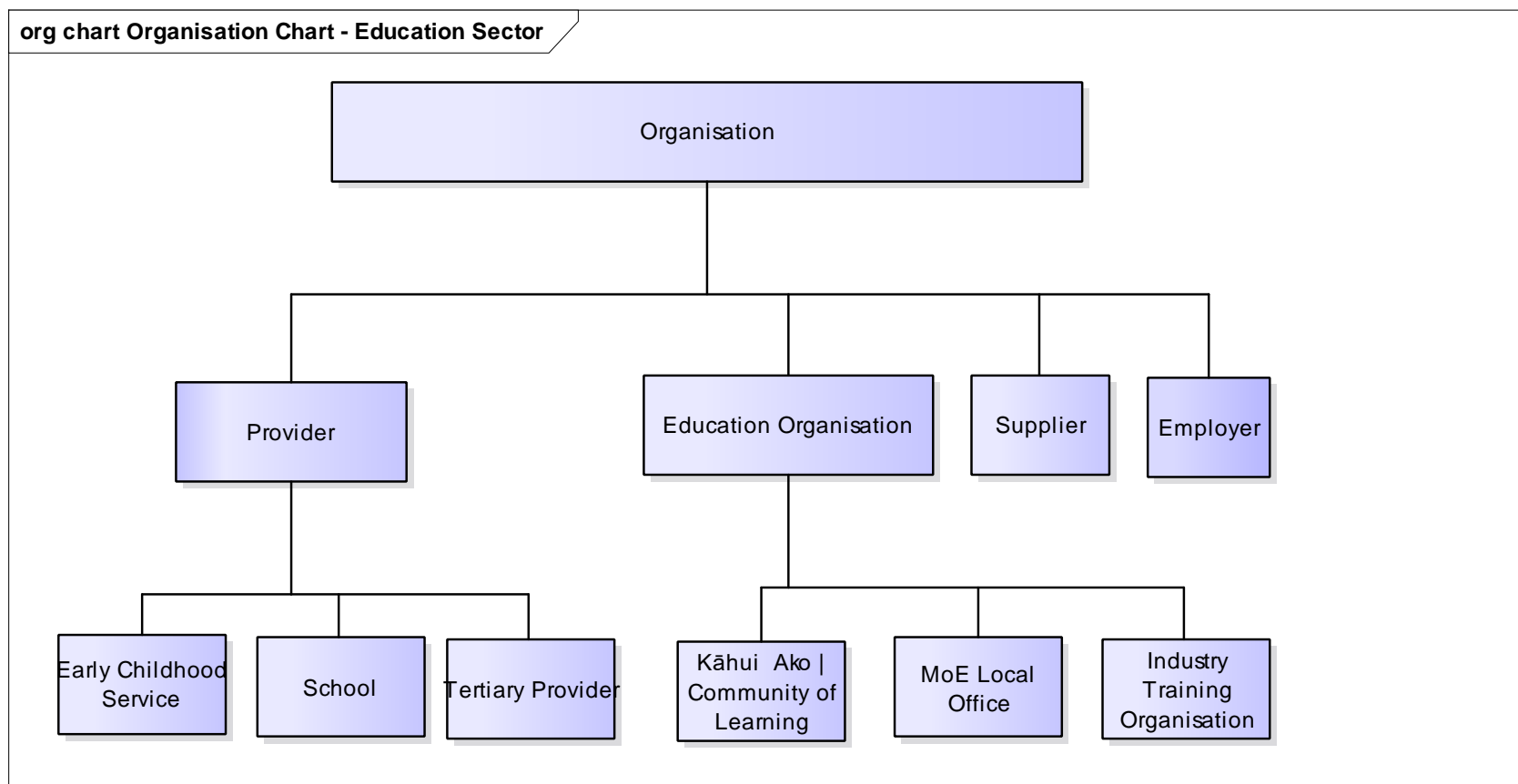


Figure 1: Education Organisation Hierarchy

# 1 Conceptual Data Model

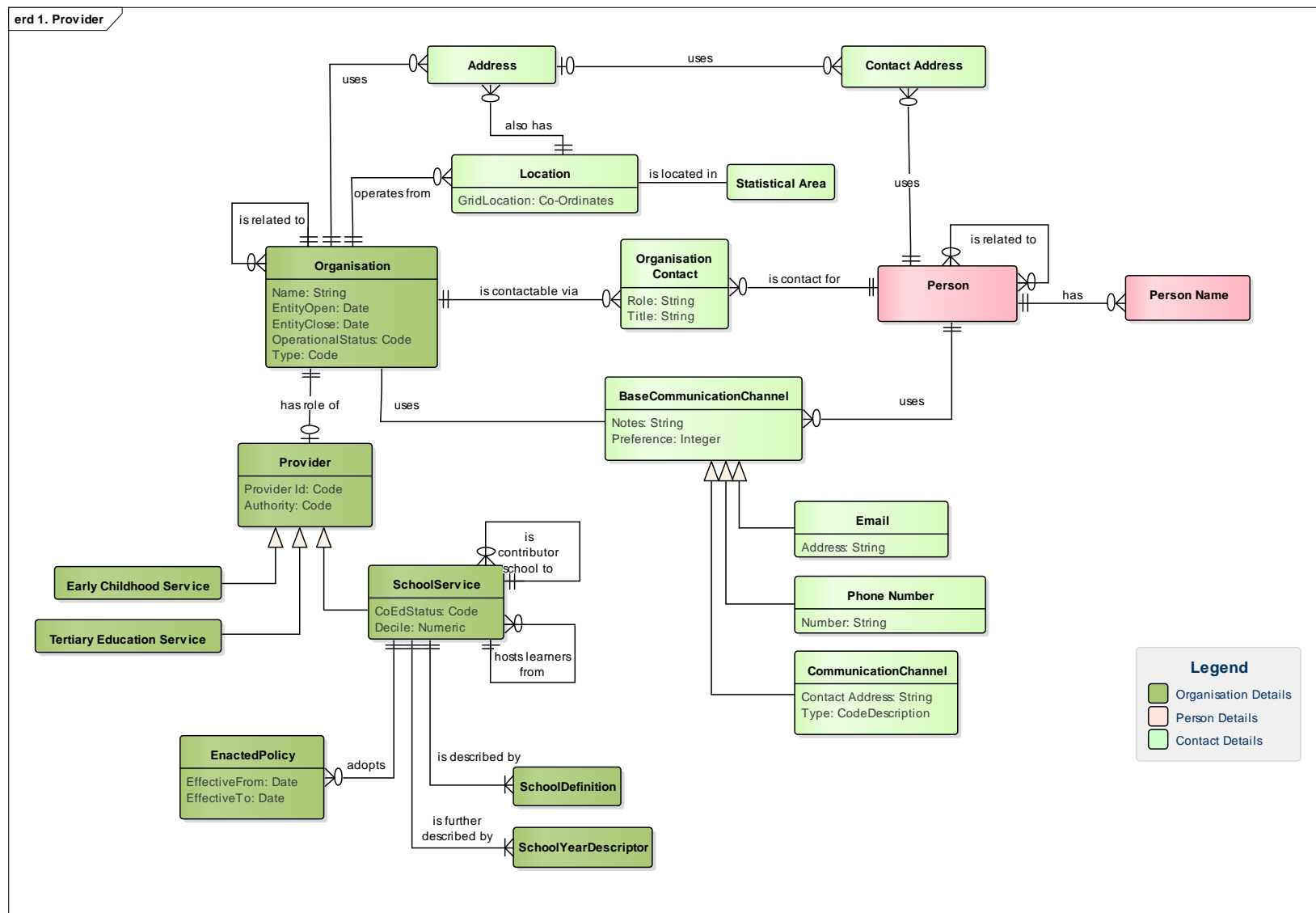


Figure 2: Provider & Organisation Conceptual Model

Combining the organisation hierarchy presented in Figure 1 with a traditional Person & Organisation model yields the Provider & Organisation conceptual model presented in Figure 2.

## 1.1 Implementation Notes

The following transformations and omissions have been made in transforming the provider & organisation conceptual model into the SIF NZ Provider data object:

1. Multiple relationships between Organisations are recorded using RelatedOrganisation and SIF generic ObjectReference.
2. OrganisationContact, Person and PersonName have been conflated into a single ContactList entity. This conflation will be unpicked in later releases of the SIF NZ Data Model, when school staff, learners and their whānau are added to the model.

### 1.1.1 School vs Provider

The Provider data object was developed from the SchoolInfo data object in the SIF AU Data Model.

To cater for life-long learning and management of student information across early childhood, school and tertiary sectors, the SchoolInfo data object has been remodelled as a Provider data object, able to represent an education provider from any sector.

This impacts several other data objects in the SIF NZ Data Model. Where other transactions reference a school (such as StudentSchoolEnrollment), the SchoolInfoRefId field will be replaced with ProviderRefId (and in the case of StudentSchoolEnrollment this data object has been renamed StudentProviderEnrolment).

**Note:** Early Childhood Service & Tertiary Education Service provider roles have not been implemented in the current release of SIF NZ Data Model. These two provider roles will be addressed at some time in the future.

### 1.1.2 Communication Channel

The SIF AU Data Model provides for contact mechanisms using specific types – address, phone, email and school url (website). To provide for additional potential contact mechanisms (eg Facebook page for a school) it was suggested that all contact mechanisms could be represented more generically using CommunicationChannel (except for address which requires its own specific definition).

However replacing phone and email definitions would represent too large a departure from the existing SIF model. Instead it was decided to continue to represent address, phone and email using the existing SIF constructs. CommunicationChannel has been introduced but this will replace the existing school url and allows for future requirements for any new channels for an organisation (eg Facebook page, Twitter account). These communication channels already exist for schools, although the information is not currently collected in MoE systems.

### 1.1.3 Address & Geospatial Location

The SIF NZ Data Model departs from the SIF AU Data Model, as it does not break Address down into separate fields for street number, street name, street type, prefix & suffix. A simple Line1, Line2, Line3, Suburb, City, State & Country structure is sufficient for all known integrations.

The Address and Location structure is included as depicted in Figure 2, whereby Organisations use Addresses, and operate from Locations. While Locations have an Address, not all Addresses refer to Locations. (ref: P O Box, Private Bag and other classes of service address that don't denote any particular geographic location).

Each Location is located in a number of Statistical Areas, one of each spatial area type defined by Statistics New Zealand in Figure 3:

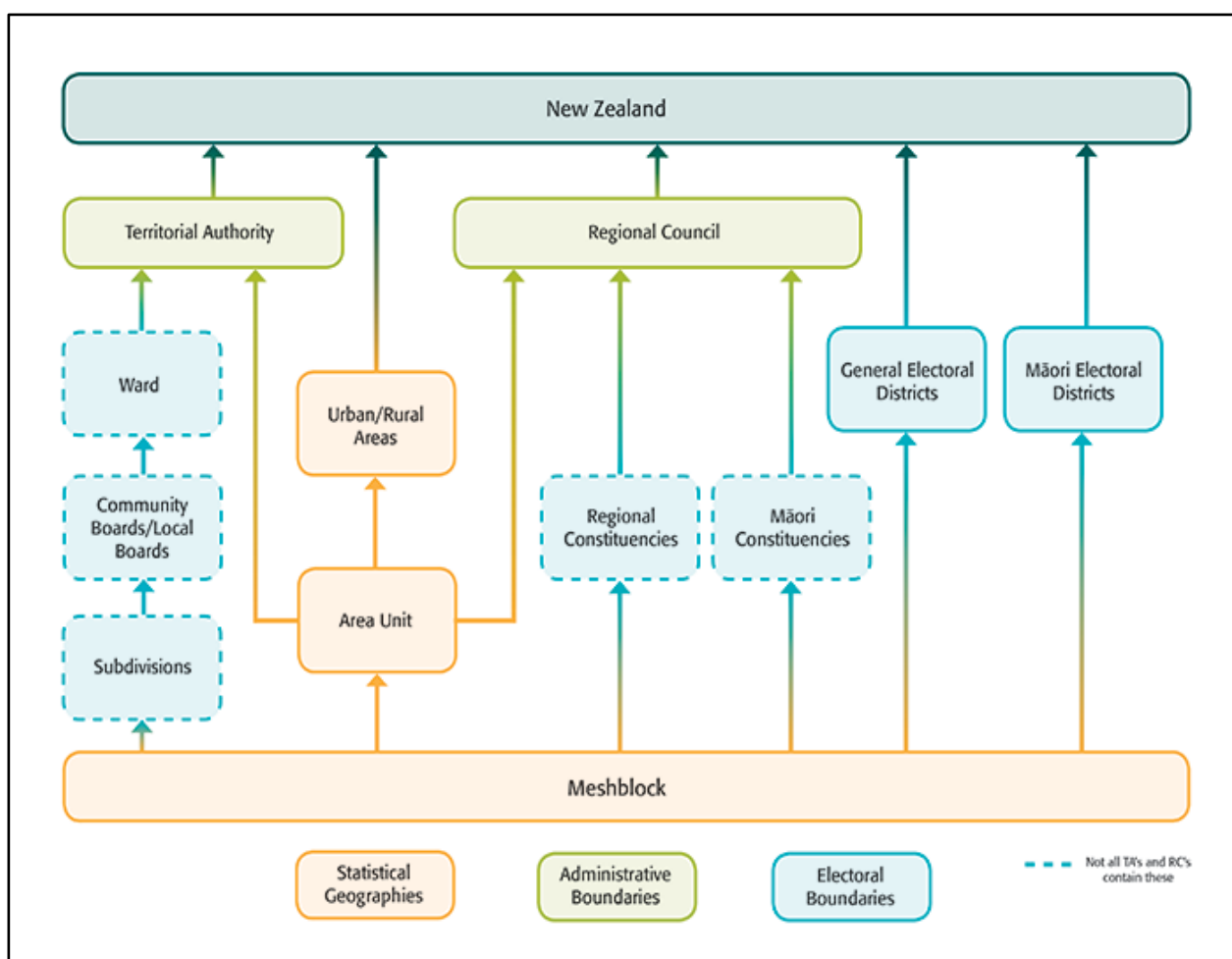


Figure 3: Spatial Area Types – ex Stats New Zealand

The SIF NZ Data Model spatial area type enumeration recognises the following spatial area types:

Code	Description	Definition per Stats NZ
AE	Area Unit	Area units are aggregations of meshblocks. They are non-administrative areas that are in between meshblocks and territorial authorities in size. Area units must either define or aggregate to define, regional councils, territorial authorities and urban areas.
GE	General Electoral District	The general electoral districts as constituted under the Electoral Act 1993.
CB	Community Board (aka Local Board within Auckland)	Local boards provide governance at the local level within Auckland Council. They enable democratic decision making by, and on behalf of communities within the local board area.
ME	Māori Electoral District	Māori electoral districts are the voting districts for parliamentary elections for people who choose to be on the Māori Electoral Roll.
MB	Mesh Block	A meshblock is the smallest geographic unit for which statistical data is collected and processed by Statistics New Zealand. A meshblock is defined by a geographic area, which can vary in size from part of a city block to a large area of rural land. Each meshblock borders on another to form a network covering all of New Zealand, including coasts and inlets and extending out to the 200-mile economic zone.
RC	Regional Council	The Local Government Act 2002 requires the boundaries of regions to conform as far as possible to one or more water catchments. When determining regional boundaries, the Local Government Commission gave consideration to regional communities of interest when selecting water catchments to be included in a region. It also considered factors such as natural resource management, land use planning and environmental matters.
TA	Territorial Authority	A territorial authority is defined under the Local Government Act 2002 as a city council or district council. There are 67 territorial authorities consisting of 12 city councils, 53 districts, Auckland Council, and Chatham Islands Council.
UA	Urban Area	Urban Areas are statistically defined areas with no administrative or legal basis. There is a three part hierarchical sub-division of urban areas into: main urban areas, secondary urban areas, minor urban areas. Together the populations in main, secondary and minor urban areas comprise the statistically defined urban population of New Zealand. The urban area classification is designed to identify concentrated urban or semi-urban settlements without the distortions of administrative boundaries.
WA	Ward	Wards are defined under the Local Electoral Act 2001 and result from the division, for electoral purposes, of the district of a territorial authority. The ward system was designed to allow for the recognition of communities within a district and to increase community involvement in the local government system.

The actual spatial areas code values recognised by the SIF NZ Data Model, when representing a statistical area are defined by Stats New Zealand in the following standards:

Statistical Area Type	Referenced Standard
Area Unit	<i><u>Statistics NZ Classification of Area Unit</u></i>
General Electoral District	<i><u>Statistics NZ General Electoral District</u></i>
Community Board	<i><u>Statistics NZ Community Board (codes 07601 - 07621)</u></i>
Māori Electoral District	<i><u>Statistics NZ Māori Electoral District</u></i>
Mesh Block	<i><u>Statistics NZ Statistical Standard for Meshblock</u></i>
Regional Council	<i><u>Statistics NZ Regional Council</u></i>
Territorial Authority	<i><u>Statistics NZ Territorial Authority</u></i>
Urban Area	<i><u>Statistics NZ Urban Area</u></i>
Ward	<i><u>Statistics NZ Ward</u></i>

**NOTE:** The SIF NZ Data Model does not include enumeration code sets for these externally defined codes. Implementation projects should investigate making use of the Code Sets Registry capability defined by the SIF Global Infrastructure, to make these code sets available to any particular implementation of the SIF Data Model.

## 2 Logical Data Model

The concepts introduced in the conceptual data models above are realised as EducationOrganisation, Provider & ProviderRelationship SIF Data Objects, which are shown below:

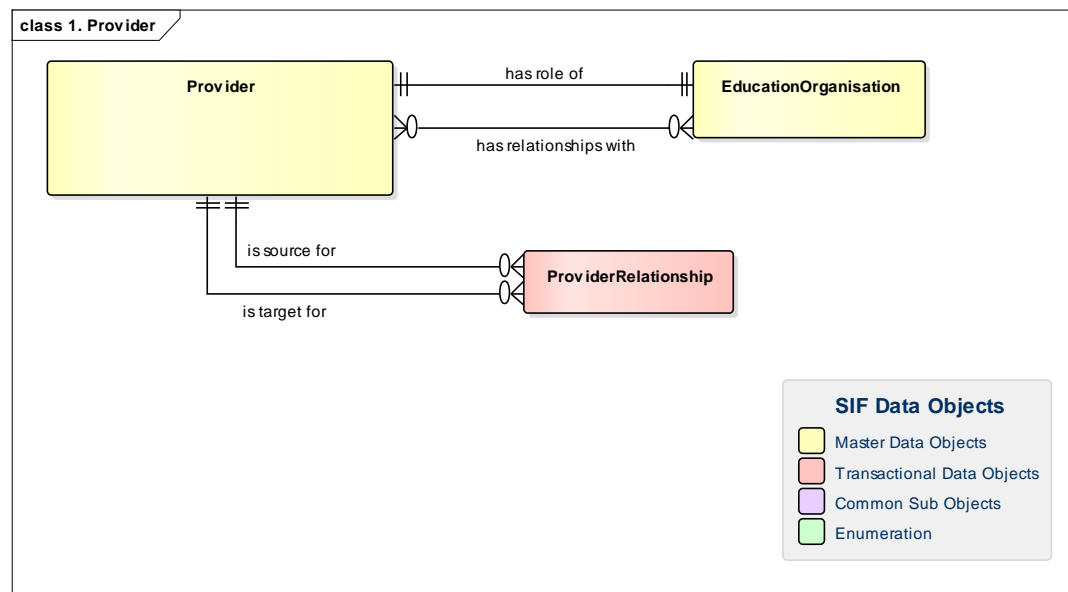


Figure 4: SIF NZ Provider Data Objects - Logical Model



The three data Provider SIF data objects are constructed re-using a number of common data types, which provide for consistency across the whole SIF Data Model:

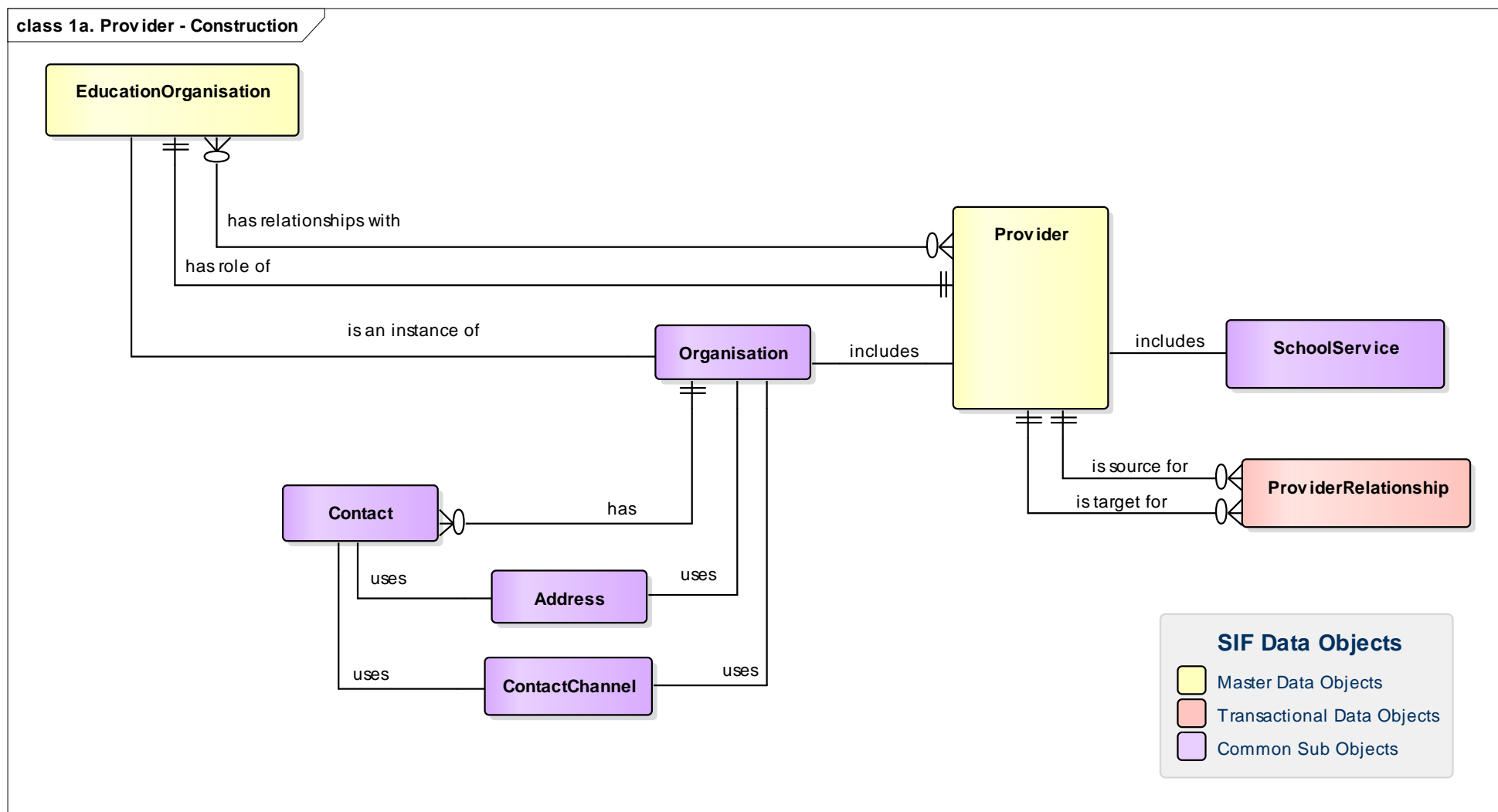


Figure 5: Provider Data Objects – Reuse of Common Types

### 3 Provider Data Object

From the conceptual and logical models presented above, the Provider data object is implemented (with Provider and Providers as the matching API endpoints), with structure as depicted:

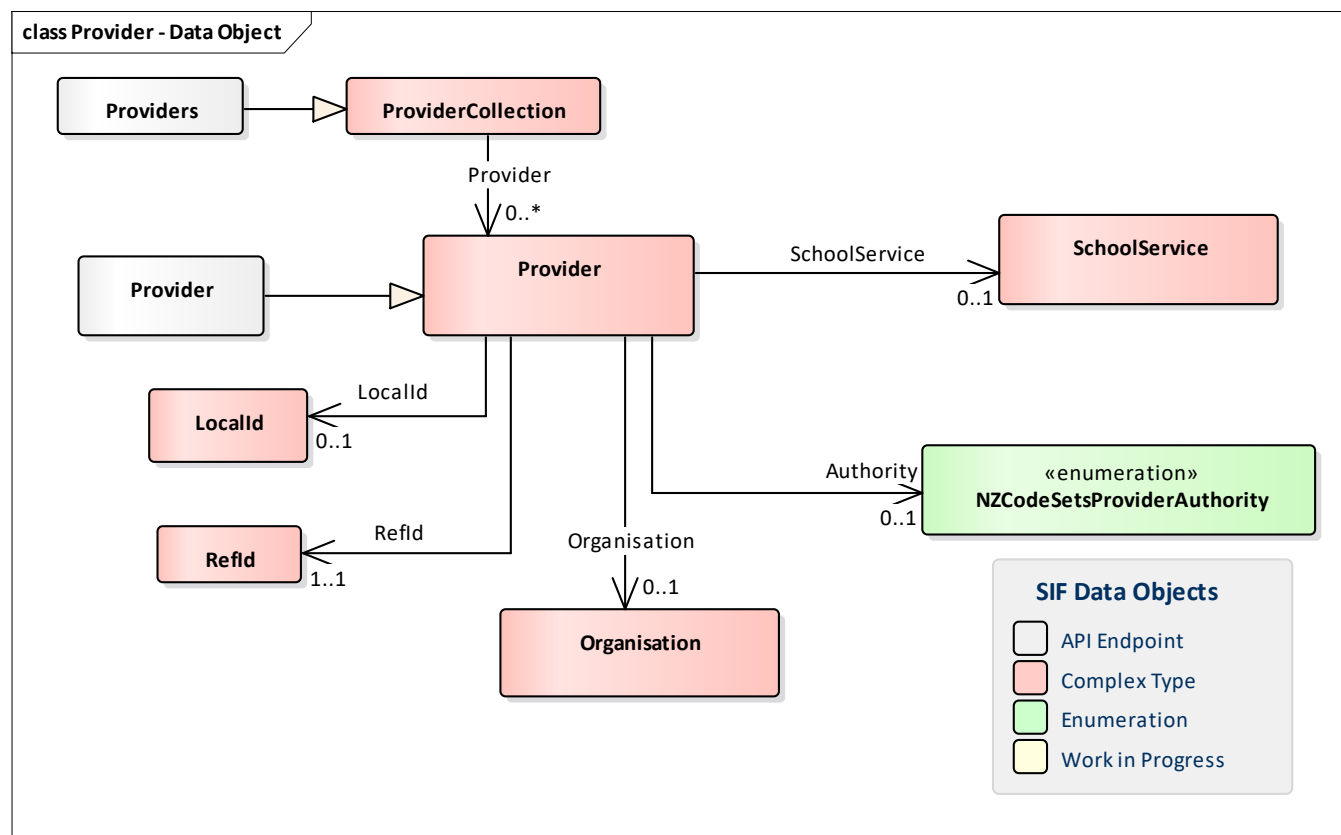


Figure 6: Provider Data Object

### 3.1 Provider & School Service

Providers that are Schools, are described with the SchoolService structure:

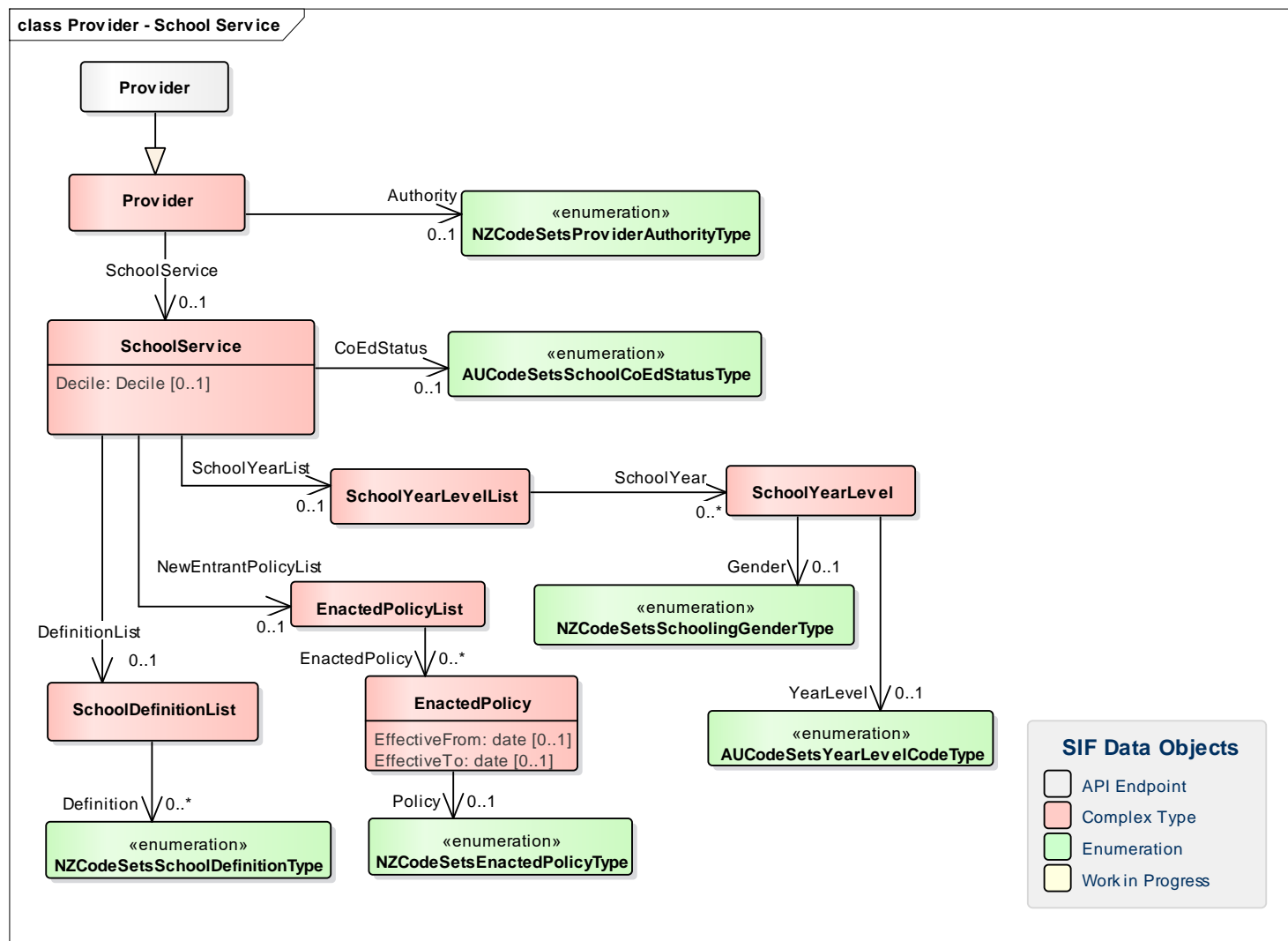


Figure 7: Provider as a SchoolService

## 3.2 Organisation – Contacts & Communication Channels

All types of organisation share the same set of contacts, and communication channels can be attached directly to the Organisation or via a Contact.

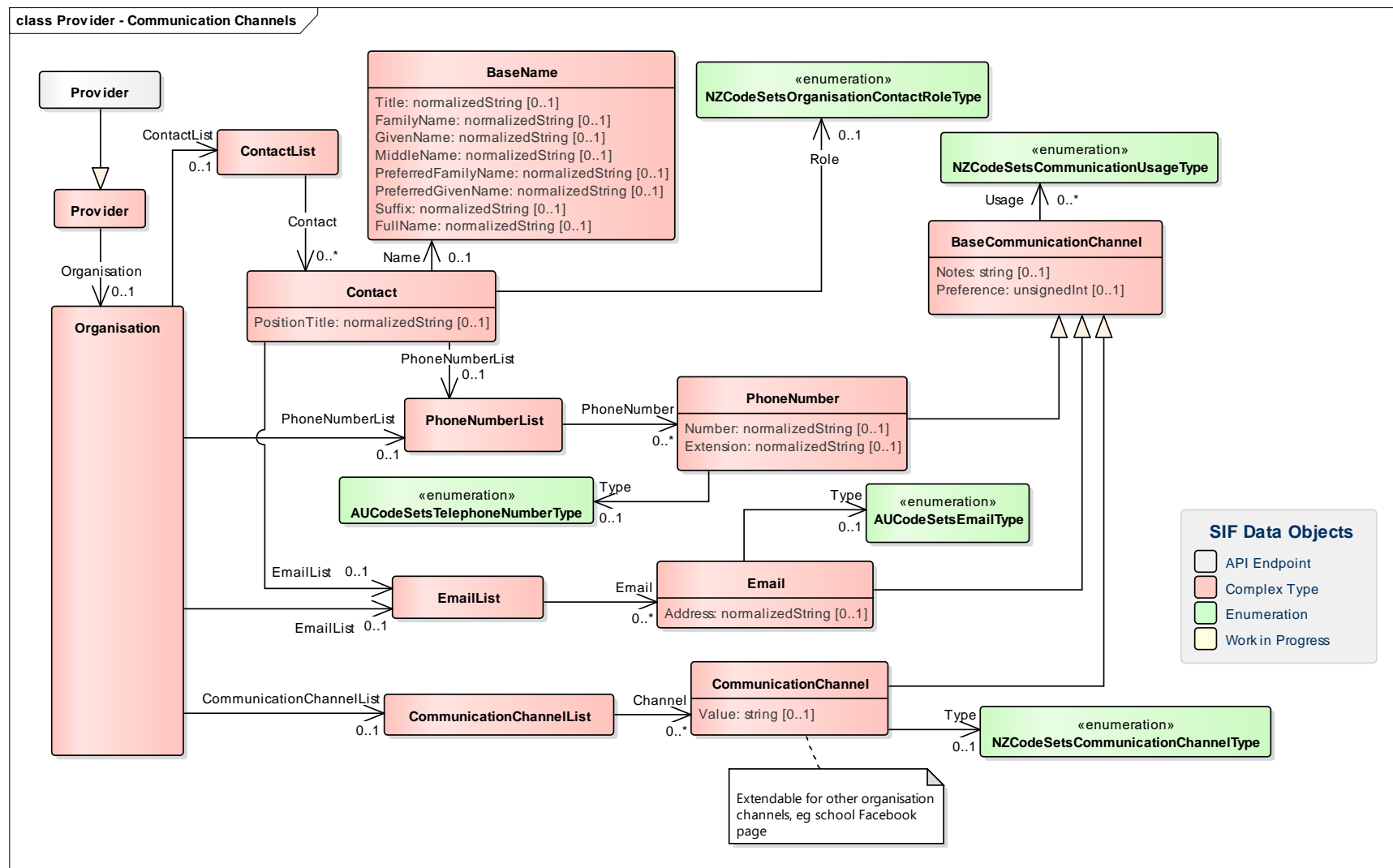


Figure 8: Provider Communication Channels

### 3.3 Organisation – Address & Location

All types of Organisation share the same set of general Address & Location structures; again, they may be attached directly or via a Contact.

**Note:** Address and Location sub-objects each have a relationship with the other, meaning there is a cycle in the graph of data objects.

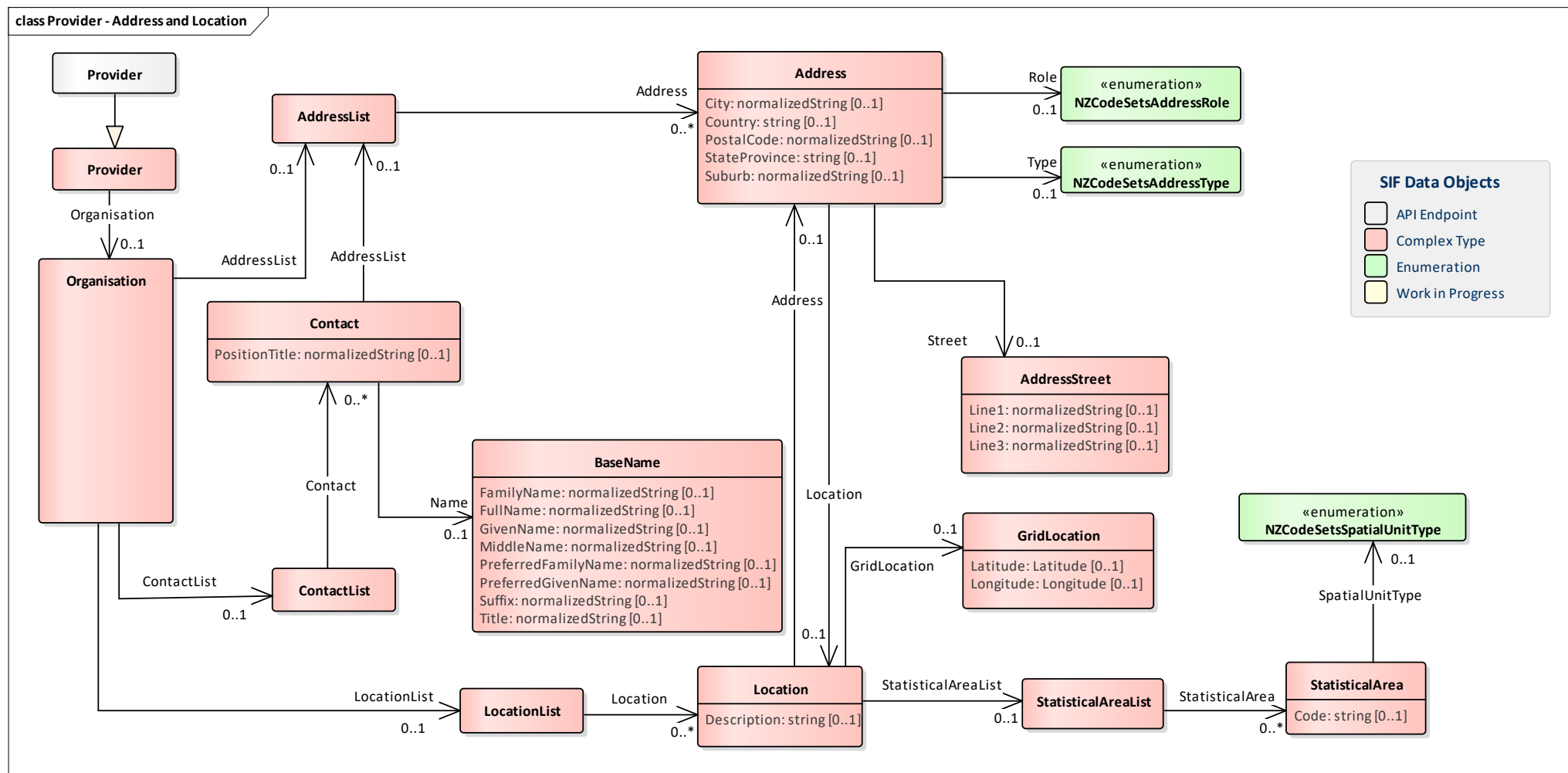


Figure 9: Organisation Address & Location

### 3.4 Organisation – Related Organisations

General relationships between Organisations are recorded through the RelatedOrganisationList field of the Organisation structure. Eg. A Provider is a member of a particular Kāhui Ako, and is managed via a particular Region of the MoE.

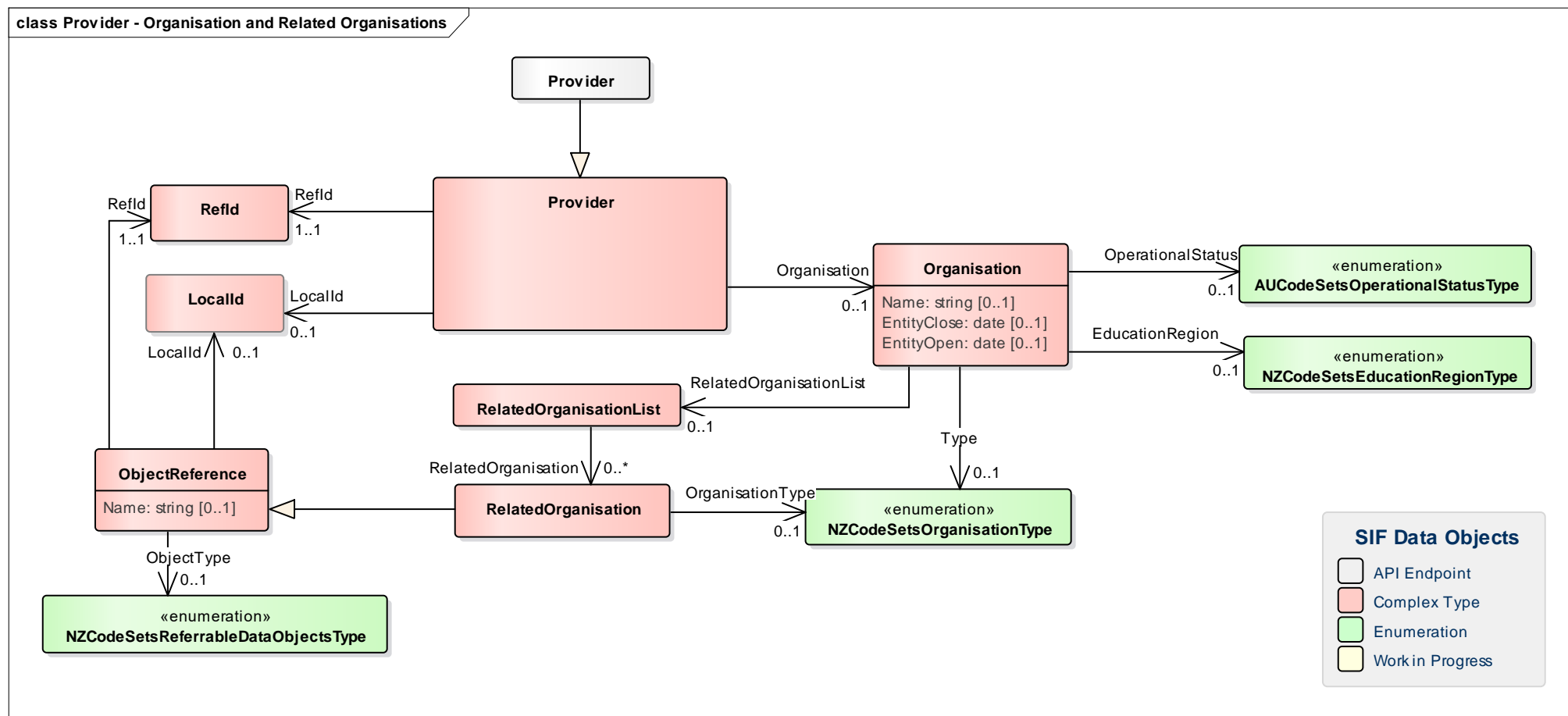


Figure 10: Related Organisation List

## 4 Provider Relationship Data Object

Specific relationships between Providers require more detail to be recorded and are maintained separately with the ProviderRelationship data object: The relationshipType value grants the source and related Providers access to certain subsets of each other's data.

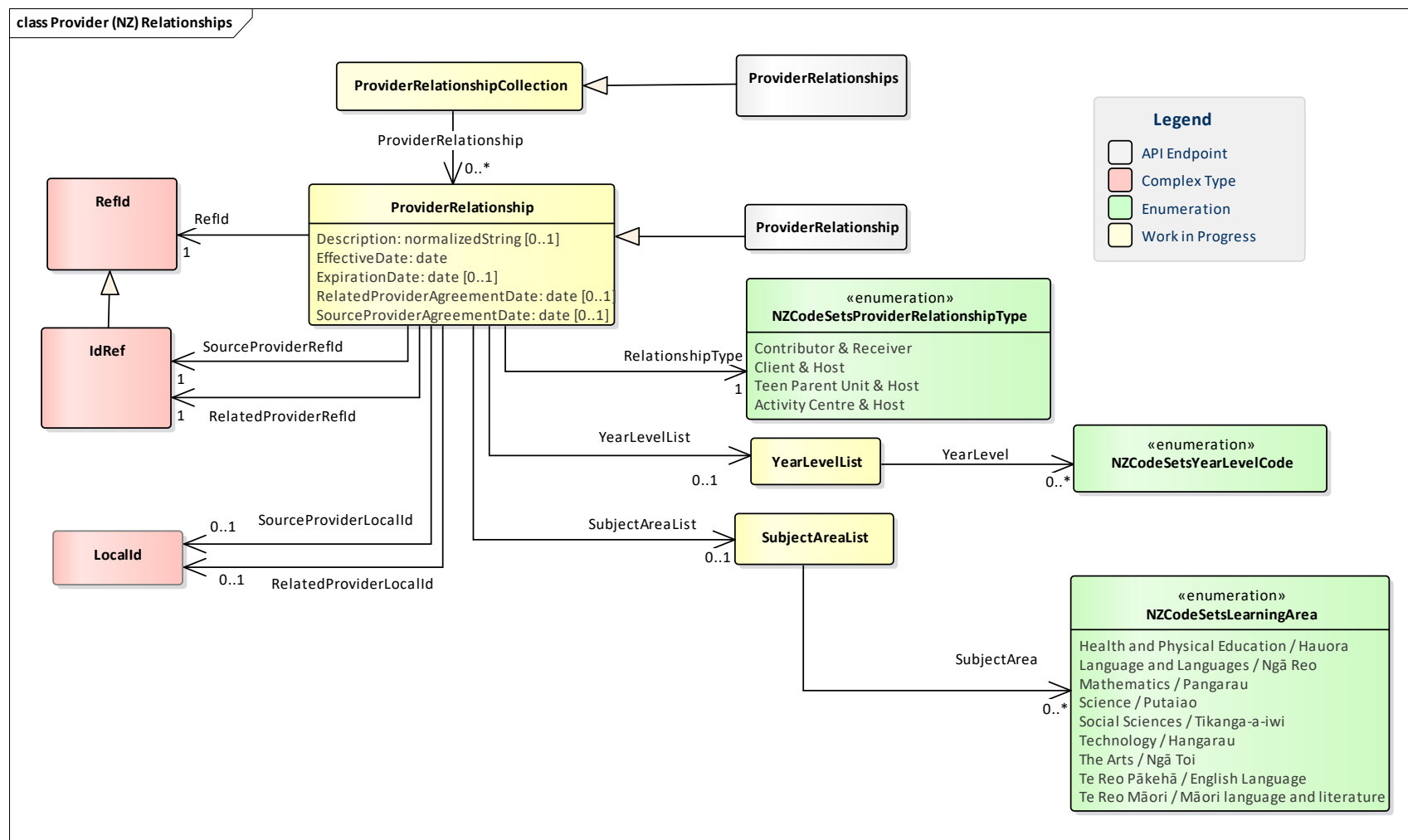


Figure 11: Provider Relationship Data Object

## 5 Education Organisation Data Object

Non provider kinds of Organisation (eg Kāhui Ako, Education Admin Regions) are described with the EducationOrganisation data object:

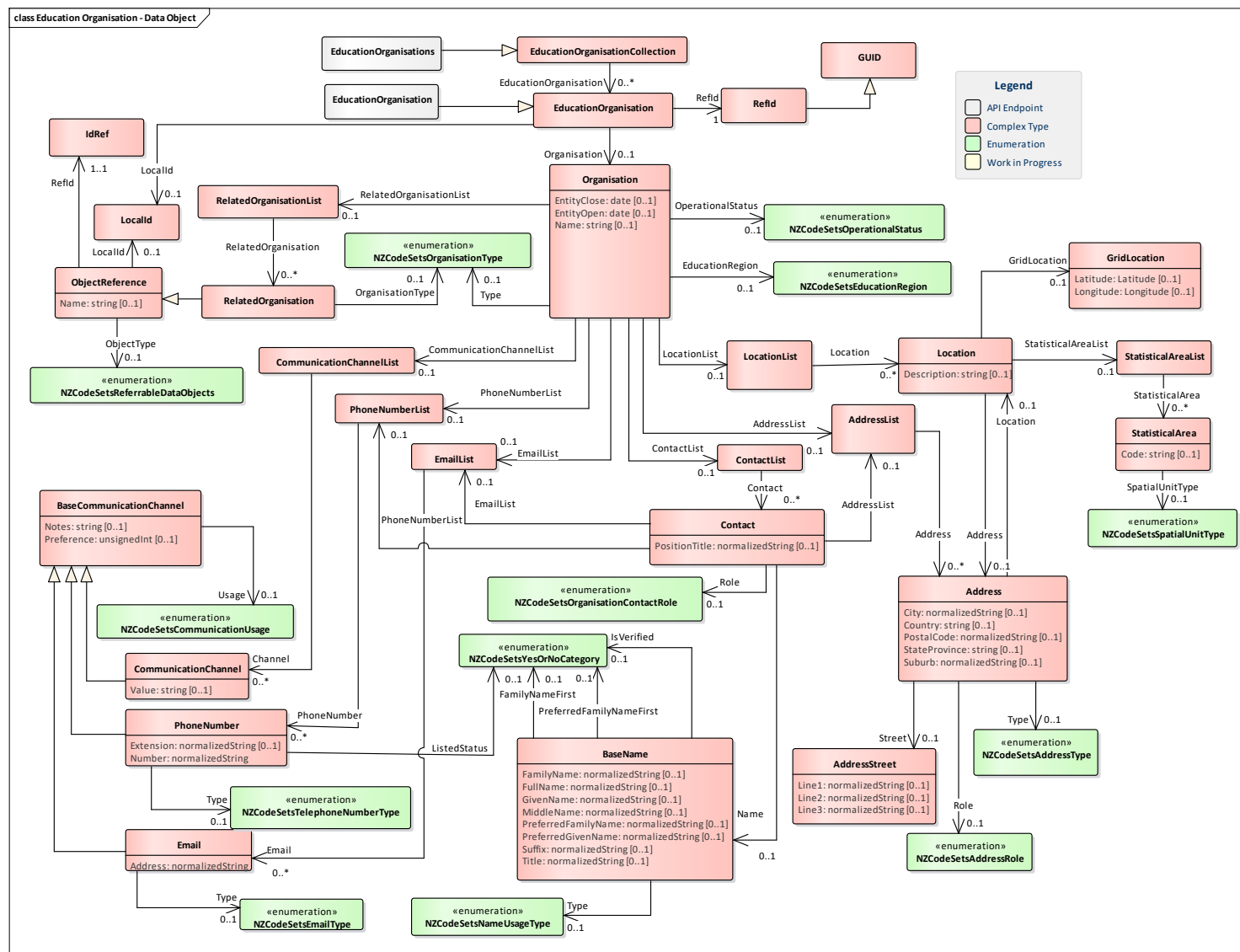


Figure 12: Education Organisation Data Object



## 6 Document Control

### 6.1 Amendment History

Version No	Description of Change	Changed By	Date
0.1	Assembled from various working documents as part of SIF NZ Data Model v3.0.1 publication process.	Stuart McGrigor	26 Apr 2018
0.2	Updated after internal review	Stuart McGrigor	27 Apr 2018
0.3	Added ProviderRelationship, and EducationOrganisation data objects. Updated message structure diagrams.	Stuart McGrigor	29 Jun 2018
0.4	Removed non-Provider & EducationOrganisation data objects from Logical diagram.	Stuart McGrigor	18 Jul 2018
0.5	Address & Location have links to each other; ProviderRelationship records the relationship with separate agreement dates for each Provider.	Stuart McGrigor	21 Nov 2018

### 6.2 Related Documents

Ref #	Document Title	Version	Link

### 6.3 Distribution List

Name	Role	Function

### 6.4 Document Details

Document ID	
Document Last Saved Date	21-Nov-2018
Link to MoE Filenet Folder	<u><a href="#">SIF NZ Data Model - Background – Education Organisation</a></u>