SIF NZ DATA MODEL – ASSESSMENT & ATTAINMENT – v1.1

A primary goal for SIF New Zealand is to build a New Zealand flavour of SIF Data Model that is largely based on the SIF Australia data model.   The structures describing Student assessment and attainment have been developed jointly with the SIF AU data model.

The joint design process has highlighted the need for some deviation from the SIF AU data model for the SIF NZ data model:

- Renaming of the GradingAssignment and GradingAssignmentScore data objects to AssessmentTask and AssessmentTaskResult; recording the details of an individual assessment task, (be it a grading assignment, course exam, or an end of year course or programme final grade).

- Addition of AssessmentRegistration data object, recording a student's registration for assessments that are to be conducted by external agencies at some future date; (e.g. NZQA Learning Standard entries, Cambridge exam entries).

- Addition of StudentAssessment data object recording a Student's participation in a particular assessment task, including the applicability of special assessment conditions.

- Addition of StudentAttainment data object recording a Student's attainment of a qualification, credential, achieving a course or learning standard pass, based upon having achieved the requisite assessment results. (e.g. Achieving NCEA Level 1, by gaining sufficient learning standard credits).

1   Conceptual Data Model

Data requirements in the Assessment & Achievement domain differ between the Primary and Senior Secondary school sectors. Throughout this document we refer to Primary school assessment even though the data requirements are applicable to students from Year 1 through to junior secondary school (Years 9 & 10). Assessments are all conducted by the schools, with minimal involvement by any external agency.

Senior Secondary (Years 11, 12 & 13) assessments are conducted by external agencies, primarily New Zealand Qualifications Authority (NZQA); with substantial numbers of students also being assessed by Cambridge International Education (CIE) and International Baccalaureate (IB).

1.1   Assessment Design

Entity	Description
Assessment Family	A set of assessments with a common name, jurisdiction or focus. **Primary examples:** *PAT, STAR, IKAN & asTTle* **Secondary examples:** *NCEA, Cambridge Mathematics*
Assessment Task	An assessment instrument designed to provide an evaluation specific to a certain objective, education level and/or learning area according to the intent of its Assessment Family. The Assessment may be provided by use of an Assessment Form or by some other means (eg teacher judgement).
Assessment Form	An instance of an Assessment that can equate scores with another instance of that same Assessment. **Primary example:** *PAT Mathematics - Test 1a.* **Secondary example:** *Cambridge Maths - June 2017 Paper 1*
Component	Part of a programme or training scheme. Components together make up a coherent arrangement of learning or training. Components include projects, papers, courses, modules, practicum and skill and assessment standards. **Secondary example:** *12CHE Chemistry (Wellington College NCEA Level 2)*
Learning Standard	A specific competency or learning objective that forms part of a programme of learning. **Secondary example:** *91165 v2 Demonstrate understanding of organic compounds.*

1.2 Assessment Results

Entity	Description
Student Assessment	An instance of a student participation in an assessment including the student's results from that assessment. **Primary example:** *Jade has an assessment for STAR Years 3-4A.* **Secondary example:** *Bill's subject choice of Chemistry requires that he will be assessed for 91162 v2 Demonstrate understanding of organic compounds.*
Result Score	The value and metric that describes the score received for an Assessment Result. **Primary example:** *one of the scores achieved by Roger for his PAT Reading Comprehension – Test 5 was Stanine 6 (score value = '6', metric = 'Stanine').* **Secondary example:** *Bill has been assessed as "Achieved with merit" for 91162 v2 Demonstrate understanding of organic compounds*

1.3 Achievements

Entity	Description
Achievement Result	The result achieved by a Student in respect of a qualification, award or other achievement. **Secondary example:** *a Student is recognised as having achieved* *- NCEA Level 3 Achieved with Excellence* *- Course Endorsement for Biology Endorsed with merit at Level 3.*

1.4 Primary School Sector Assessment Conceptual Data Model

Figure 1: Primary School Sector Assessment - Conceptual Model

1.5 Secondary Sector Assessment - Master Data Conceptual Data Model

Figure 2: Secondary Sector Assessment – Master Data – Conceptual Model

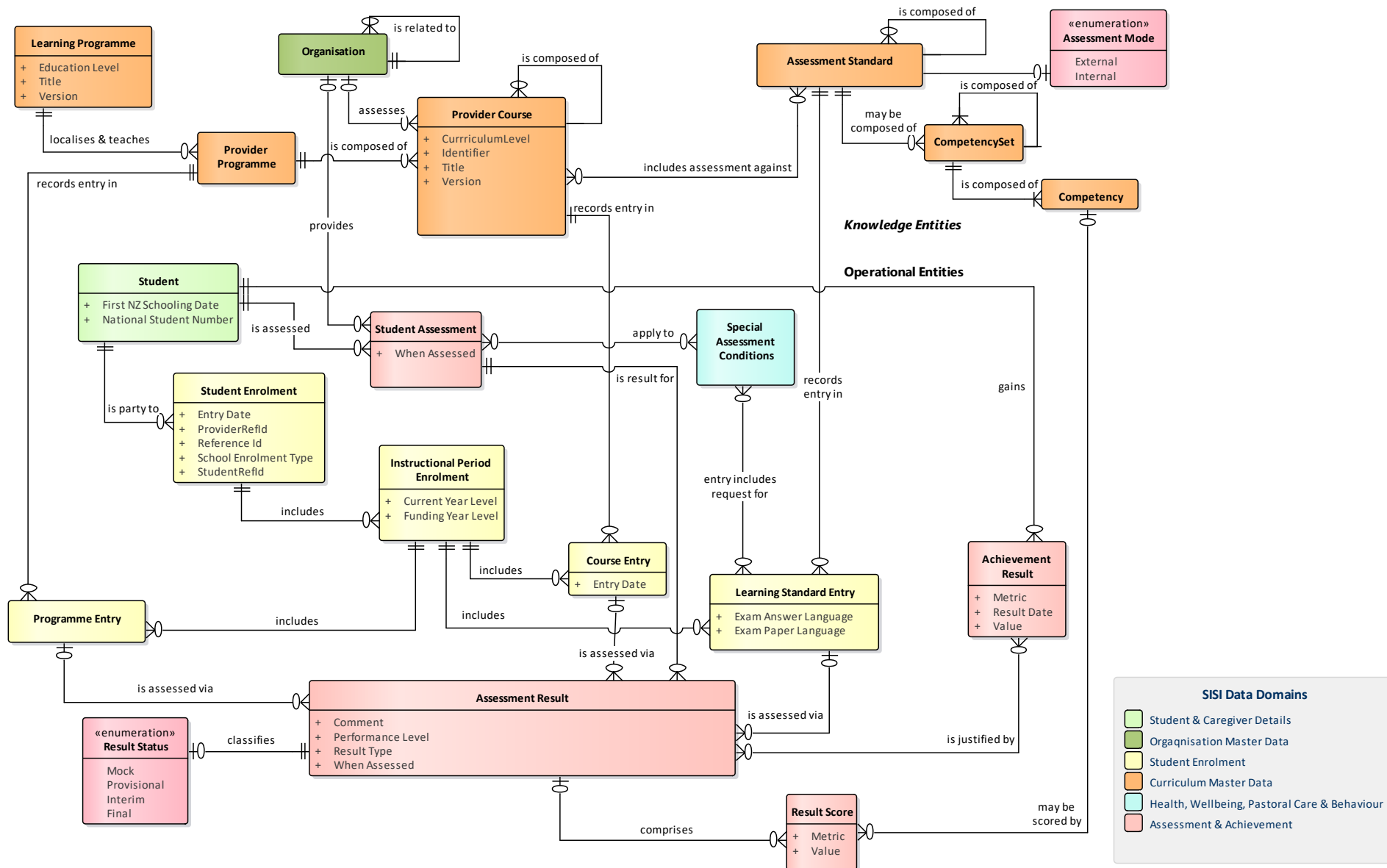## 1.6 Secondary Sector Assessment – Entry and Results Conceptual Data Model

Figure 3: Secondary Sector Assessment – Entry and Results – Conceptual Model

2 Assessment & Achievement Data Requirements

2.1 Primary Sector Data Requirements

Primary schools do not typically have the concept of courses or subject choices. Instead assessment results are recorded in relation to assessment tools or judgement schemes according to learning areas and performance levels.

Primary schools choose from a variety of Assessment Tools which provide formal, standardised tests. The results from these tests are expressed in defined metrics that allow students to be readily compared across classes or schools.

Primary schools also conduct less formal, subjective assessments (or judgements) based on evidence for various sources, including formal tests. Results for these may be expressed using a mixture of defined metrics and teacher statements. These results indicate achievement in relation to the relevant half of *The National Curriculum* (either The New Zealand Curriculum or Te Marautanga o Aotearoa).

Achievements and awards may apply to Primary sector but are not yet included in the scope under review.

The following Assessment Tools are a sample of those used by Primary schools in assessing student's learning and progress. This sample is intended to give an indication of the range of complexity of the major assessment tools.

The data requirements are intended to propose a generic approach to structuring this data that will apply to any Primary school assessment tool.

2.1.1 PAT Progressive Achievement Tests

Assessment Family	PAT - Progressive Achievement Tests
Learning Area	Mathematics Listening comprehension Reading comprehension Reading vocabulary *Punctuation and grammar - not yet included*
Assessment Forms	Math1a PAT Mathematics - Test 1a Math1 PAT Mathematics - Test 1 Math2 PAT Mathematics - Test 2 Math3 PAT Mathematics - Test 3 Math4 PAT Mathematics - Test 4 Math5 PAT Mathematics - Test 5 Math6a PAT Mathematics - Test 6a Math6 PAT Mathematics - Test 6 Math7 PAT Mathematics - Test 7 Comp1 PAT Reading Comprehension - Test 1 Comp2 PAT Reading Comprehension - Test 2 Comp3 PAT Reading Comprehension - Test 3 Comp4 PAT Reading Comprehension - Test 4 Comp5 PAT Reading Comprehension - Test 5 Comp6 PAT Reading Comprehension - Test 6 Comp7 PAT Reading Comprehension - Test 7 Vocab1 PAT Reading Vocabulary - Test 1 Vocab2 PAT Reading Vocabulary - Test 2 Vocab3 PAT Reading Vocabulary - Test 3 Vocab4 PAT Reading Vocabulary - Test 4 Vocab5 PAT Reading Vocabulary - Test 5 Vocab6 PAT Reading Vocabulary - Test 6 Vocab7 PAT Reading Vocabulary - Test 7

Score Metrics	Raw Score	The raw (unscaled) score achieved Used as an input for determining other metrics but not itself of much use for understanding result.
	Scale Score	The conversion of a raw test score to a location on a described equal-interval scale designed to measure progress over several year levels.
	Margin of Error	The margin of error statistically calculated for the given scale score. Expressed as a margin plus or minus of the scale score. Example: for PAT Mathematics - Test 2, a student with a raw score of 16 would have a corresponding scale score of 37.6. The error margin for this score is 3.5, so the student's real score is likely to fall between 34.1 and 41.1 (37.6 plus and minus 3.5).

	Stanine	A graded value derived from the raw score and year level. Used to compare an individual student's achievement with the results obtained by a national reference sample chosen to represent a certain year level.
		Likely to be the most useful metric to inform a new school when a student transfers.
Performance Level	The reference year is the year level of the national reference group, with which the students result is compared against.	
	This may be the same year level as the student's current year or it may be current year level plus or minus 1.	
	This means for example that if a student has an 'instructional year' of year 6 and chooses to look at their results compared with the national levels of year 7 students (the 'reference year') then the students' achievement on each item is being compared with the achievements of a national reference group of the next year level.	

Score Conversion Table: Test 1A

MATHEMATICS TEST **1A**

Test score (number correct)	Scale score (patm)	Error (patm)	Year 3 stanine	Year 4 stanine	Year 5 stanine
30	66.9	>10.2	9	9	9
29	56.6	10.2	9	9	8
28	49.2	7.4	9	8	7
27	44.6	6.2	9	7	6
26	41.2	5.5	8	7	5
25	38.5	5.0	8	6	5
24	36.1	4.7	7	6	5
23	34.0	4.5	7	6	4
22	32.1	4.3	7	5	4
21	30.3	4.2	6	5	4
20	28.6	4.1	6	5	3
19	26.9	4.0	6	4	3
18	25.3	4.0	6	4	3
17	23.8	3.9	5	4	3
16	22.3	3.9	5	4	2
15	20.7	3.9	5	3	2
14	19.2	3.9	5	3	2
13	17.6	4.0	4	3	2
12	16.0	4.0	4	3	1
11	14.4	4.1	4	2	1
10	12.7	4.2	4	2	1
9	10.9	4.3	3	2	1
8	8.9	4.5	3	2	1
7	6.9	4.7	3	1	1
6	4.6	4.9	2	1	1
5	2.0	5.3	2	1	1
4	−1.0	5.7	1	1	1
3	−4.7	6.4	1	1	1

2.1.1.1 Assessment Example - PATs

Two students are enrolled at Hogwarts School in year 5 for the 2016 academic year. The students participate in a PAT assessment for Mathematics, taking the Math1a test on 10th Oct 2016. Both students score the same raw score.

The school determines the assessment results – scale score and stanine - at the year 5 level for one student and year 4 level for the other.

	Student 1	Student 2
Raw Score:	25	25
Scale Score:	38.5	38.5
Margin of Error:	5.0	5.0
Stanine:	6	5
Year Level:	4	5

2.1.1.2 Sample Data Elements – PAT Assessment Result

Assessment Task	Assessment Family	Code	PAT
		Description	Progressive Achievement Tests
	Learning Area		Mathematics
	Learning Standard	RefId	<Not Applicable>
		Code	
		Title	
		Authority	
	Assessment Form	RefId	AF456789
		Code	Math1a
		Title	PAT Mathematics - Test 1a
	Session Date		20 March 2017
	Assessment Provider	Code	247

Student Assessment	Performance Level	4
	Assessment Date	
	Result Date	27 March 2017

Result Score	Metric		Raw Score
	Value		25
	Competency	RefId	<Not Applicable>
Result Score	Metric		Scale Score
	Value		38.5
	Competency	RefId	<Not Applicable>
Result Score	Metric		Stanine
	Value		6
	Competency	RefId	<Not Applicable>
Result Score	Metric		Margin of Error
	Value		5.0
	Competency	RefId	<Not Applicable>

2.1.2 STAR - Supplementary test of achievement in reading

Assessment Family	STAR - Supplementary test of achievement in reading
Learning Area	Reading
Assessment Forms	Years 3-4 A Years 3-4 B Years 3-4 C Years 5-6 A Years 5-6 B Years 5-6 C Years 7-8 A Years 7-8 B Years 7-8 C Year 9A

Score Metrics	Raw Score	The raw (unscaled) score achieved for a sub test
	Scale Score	The conversion of a raw test score to a location on a described equal-interval scale designed to measure progress over several year levels.
	Stanine	A graded value derived from the raw score and year level. Used to compare an individual student's achievement with the results obtained by a national reference sample chosen to represent a certain year level.

Performance Level	The reference year is the year level of the national reference group, with which the students result is compared against. This may be the same year level as the student's current year or it may be current year level plus or minus 1. This means for example that if a student has an 'instructional year' of year 6 and chooses to look at their results compared with the national levels of year 7 students (the 'reference year') then the students' achievement on each item is being compared with the achievements of a national reference group of the next year level.
Assessment Result	Each sub test has a raw score result. The overall result for the Assessment Form is expressed as a scale score and stanine and is determined from sub test raw score results. The assessment result includes an assessment summary comment and next learning steps comment.

2.1.2.1 Assessment Example – STAR

A student is enrolled at Hogwarts School in year 5 for the 2016 academic year; they

participate in a STAR assessment for Reading. The student takes the Year5-6B test on 10th June 2016.

The school determines the student's results at the year 5 level.

Test	Raw Score	Scale Score	Stanine	Year Level
Sub Test 1	8			
Sub Test 2	7			
Sub Test 3	10			
Sub Test 4	9			
Summary Result		22	4	5

The teacher also provides the following comments:
- **Assessment Summary:**   Good progress this year...
- **Next Learning Steps:**   Read more at home...

2.1.2.2 Sample Data Elements – STAR Assessment Result

Assessment Task	Assessment Family	Code	STAR
		Description	Supplementary test of achievement in reading
	Learning Area		Reading
	Learning Standard	RefId	<Not Applicable>
		Code	
		Title	
		Authority	
	Assessment Form	RefId	AF456123
		Code	5-6 B
		Title	STAR Reading – Years 5-6B
	Session Date		10 June 2016
	Assessment Provider	Code	247

Student Assessment	Performance Level	5
	Assessment Date	10 June 2016
	Result Date	12 June 2016

Result Score	Metric		Comment
	Value		Good progress this year …
	Competency	RefId	
		Description	Assessment Summary
Result Score	Metric		Comment
	Value		Read more at home …..
	Competency	RefId	
		Description	Next Learning Steps
Result Score	Metric		Raw Score
	Value		8
	Competency	RefId	
		Description	SubTest 1
Result Score	Metric		Raw Score
	Value		7
	Competency	RefId	
		Description	SubTest 2
Result Score	Metric		Raw Score
	Value		10
	Competency	RefId	
		Description	SubTest 3
Result Score	Metric		Raw Score
	Value		9
	Competency	RefId	
		Description	SubTest 4
Result Score	Metric		Scale Score
	Value		22
	Competency	RefId	
		Description	Summary
Result Score	Metric		Stanine
	Value		4
	Competency	RefId	
		Description	Summary

2.1.3 asTTle – Assessment Tools for Teaching and Learning

e-asTTle is one of New Zealand's most commonly used online assessment tools, developed to assess students' achievement and progress in reading, mathematics, writing, and in pānui, pāngarau and tuhituhi. The tool has been developed primarily for the assessment of students in years 5–10, but because it tests curriculum levels 2–6 it can be used for students in lower and higher year levels. The revised e-asTTle writing tool (2012) assesses curriculum levels 1–6.

Each assessment is constructed by a teacher from options provided by the tool. An assessment form can be used to represent a teacher's unique construct of an assessment.

2.1.3.1 Sample Data Elements – asTTle Assessment Result

Assessment Task	Assessment Family	Code	asTTle
		Description	Assessment Tools for Teaching and Learning
	Learning Area		Reading
	Learning Standard	RefId	<Not Applicable>
		Code	
		Title	
		Authority	
	Assessment Form	RefId	XYZ0078945
		Code	123456 *(asTTle generated)*
		Title	Mr Smith's asTTle Reading Test
	Session Date		10 June 2016
	Assessment Provider	Code	247

Student Assessment	Performance Level	3, 4, 5
	Assessment Date	10 June 2016
	Result Date	12 June 2016

Result Score	Metric		Curriculum Level
	Value		5B
	Competency	RefId	
		Description	Overall
Result Score	Metric		Score
	Value		1591
	Competency	RefId	
		Description	Overall
Result Score	Metric		Curriculum Level
	Value		5B
	Competency	RefId	
		Description	Ideas

Result Score	Metric		Score
	Value		1234
	Competency	RefId	
		Description	Ideas

2.1.4   IKAN - Individual Knowledge Assessment of Number

Assessment Family	IKAN - Individual Knowledge Assessment of Number
Learning Area	Mathematics
Assessment Forms	IKAN1 IKAN2 IKAN3 IKAN4
Competencies	Number Sequence and Order Fractions Place Value Basic Facts
Score Metrics	Number Knowledge Stage	Knowledge stages describe key items of knowledge which students need to know and be able to quickly recall without needing to strategize. Values: o Stage 4 o Stage 5 o Stage 6 o Stage 7 o Stage 8
Assessment Result	An Assessment Result is for one IKAN Form and consists of Number Knowledge Stage scores for each of the four knowledge domains - Number Sequence and Order, Fractions, Place Value, and Basic Facts.	

2.1.4.1   Assessment Example – IKAN

A student is enrolled at Hogwarts School in year 5 for the 2016 academic year; they participate in an IKAN assessment for Mathematics. The student takes the IKAN4 test on 10th October 2016, and gains the following results:

Knowledge Domain	Number Knowledge Stage
Number Sequence and Order	7
Fractions	6
Place Value	7
Basic Facts	6

2.1.4.2 Sample Data Elements – IKAN Assessment Result

Assessment Task	Assessment Family	Code	IKAN
		Description	Individual Knowledge Assessment of Number
	Learning Area		Mathematics
	Learning Standard	RefId	<Not Applicable>
		Code	
		Title	
		Authority	
	Assessment Form	RefId	
		Code	IKAN4
		Title	
	Session Date		10 October 2016
	Assessment Provider	Code	247

Student Assessment	Performance Level	<Not Applicable>
	Assessment Date	10 October 2016
	Result Date	12 October 2016

Result Score	Metric		Number Knowledge Stage
	Value		7
	Competency	RefId	
		Description	Number Sequence and Order
Result Score	Metric		Number Knowledge Stage
	Value		6
	Competency	RefId	
		Description	Fractions
Result Score	Metric		Number Knowledge Stage
	Value		7
	Competency	RefId	
		Description	Place Value
Result Score	Metric		Number Knowledge Stage
	Value		6
	Competency	RefId	
		Description	Basic Facts

2.2 Secondary Sector Data Requirements

Requirements in this section refer to senior secondary school only, ie years 11 to 13.

The following NZ standards have been included in order to formulate data requirements:

- National Certificate of Educational Achievement (NCEA)
- Awards - Scholarship, University Entrance

Qualifications offered by the following International organisations are also considered

- Cambridge International Examinations

Not yet completed - International Baccalaureate

> The intention is to also include data requirements and validate the data concepts for International Baccalaureate

2.2.1   NCEA – National Certificate in Educational Achievement

2.2.1.1   Example Scenario – Achievement Standard

A student enrols in NCEA Level 2 at Hogwarts High for the 2016 Academic Year.

The student enrols in several courses that provide credits towards NCEA Level 2 – one of these courses is Chemistry.

Part way through the year, the student has attained the following Assessment Results

Programme	NCEA Level 2
Total Credits Attained	32
Total Credits Attempted	36
Total Literacy Credits	16
Total Numeracy Credits	20

Component		Chemistry 12CHE
Education Level		NCEA Level 2
	Achievement Standard	91165
	Version	v2
	Title	Demonstrate understanding of the properties of selected organic compounds
	Credit Value	4
	Assessment Mode	External
	Result	*<not yet assessed>*
	Date	
	Achievement Standard	91166
	Version	v2
	Title	Demonstrate understanding of chemical reactivity
	Credit Value	4
	Assessment Mode	External
	Result	Achieved with merit
	Date	01 June 2016
	Achievement Standard	91167
	Version	v2
	Title	Demonstrate understanding of oxidation-reduction
	Assessment Mode	Internal
	Credit Value	3
	Result	Achieved
	Date	05 July 2016

2.2.1.2   Sample Data Elements – NCEA Assessment Result for Achievement Standard

For each Learning Standard - note Achievement Standards (NAME) have a different metric from Unit Standards (NA):

Assessment Task	Assessment Family	Code	NCEA
		Description	National Certificate in Educational Achievement
	Learning Area		Chemistry
	Learning Standard	RefId	ZXX4544
		Code	91166 v2
		Title	Demonstrate understanding of chemical reactivity
		Authority	NZQA
		Credit Value	4
		Education Level	2
	Assessment Form	RefId	*<not applicable>*
		Code	
		Title	
	Session Date		1 Dec 2016
	Assessment Provider	Code	247
	Assessment Mode		External

Student Assessment	Performance Level	
	Assessment Date	1 Dec 2016
	Result Date	18 Dec 2016

Result Score	Metric		NAME (NCEA Grade)
	Value		Achieved with merit
	Status		Final
	Competency	RefId	
		Description	

2.2.1.3   Sample Data Elements – NCEA Assessment Result for Unit Standard

For each Learning Standard – note Unit Standards have a different metric (NA) from Achievement Standards (NAME)

Assessment Task	Assessment Family	Code	NCEA
		Description	National Certificate in Educational Achievement
	Learning Area		Health Studies
	Learning Standard	RefId	ZXX4599
		Code	6402 v2
		Title	Provide Resuscitation Level 2
		Authority	NZQA
		Credit Value	1
		Education Level	1
	Assessment Form	RefId	*<not applicable>*
		Code	
		Title	
	Session Date		28 Aug 2017
	Assessment Provider	Code	247
	Assessment Mode		Internal

Student Assessment	Performance Level	Level 1
	Assessment Date	
	Result Date	1 Oct 2016

Result Score	Metric		NA
	Value		Achieved
	Status		Final
	Competency	RefId	
		Description	Overall
Result Score	Metric		NA
	Value		Achieved
	Status		Final
	Competency	RefId	
		Description	Management of Environmental Conditions

2.2.2 Cambridge Mathematics

The student also takes up an offer to enrol in a Mathematics course which provides a qualification for Cambridge Advanced Subsidiary Level Mathematics (AS) plus credits towards NCEA Level 2 Mathematics.

2.2.2.1 Example Scenario - Cambridge AS Assessment

	Learning Standard	P1
	Version	2016
	Title	Pure Mathematics 1
	Result	68%
	Date	10 October 2016
	Learning Standard	S1
	Version	2016
	Title	Probability and Statistics 1
	Result	72%
	Date	20 October 2016
Grade Result		B
Date		10 Dec 2016

2.2.2.2 Sample Data Elements – Cambridge Maths Assessment Result

For each Learning Standard

Assessment Task	Assessment Family	Code	
		Description	Cambridge
	Learning Area		Mathematics
	Learning Standard	RefId	
		Code	9709
		Title	
		Authority	Cambridge International Examinations
	Assessment Form	RefId	
		Code	
		Title	June 2017 Paper 1
	Assessment Date		10 June 2017
	Assessment Provider	Code	247
	Assessment Mode		External

Student Assessment	Performance Level	AS
	Result Date	1 August 2017

Result Score	Metric		Grade
	Status		Final
	Value		A*
	Competency	RefId	
		Description	Overall
Result Score	Metric		Percentage
	Value		95
	Status		Final
	Competency	RefId	
		Description	Overall
Result Score	Metric		Raw Score
	Value		72
	Status		Final
	Competency	RefId	
		Description	P1 Pure Maths
Result Score	Metric		Raw Score
	Value		47
	Status		Final
	Competency	RefId	
		Description	S1 Probability and Statistics

2.2.3 Secondary Sector - Achievement

This section describes a student's achievements attained following assessment of learning in Programmes and Courses.   A student's high school qualifications and achievements show the following:

- National Certificate of Educational Achievement (Level 2) achieved with merit   10 Jan 2017
- NCEA Course Endorsement in Chemistry Endorsed with excellence at Level 2   10 Jan 2017
- New Zealand University Entrance   10 Jan 2017

2.2.3.1 Sample Data Elements – Attainment

Student Attainment	Award	Code	0973
		Description	National Certificate of Educational Achievement (Level 2)
	Endorsement		Achieved with merit
	Awarded Date		10 Jan 2017
	Education Level		Level 2
	Provider Authority		NZQA

Justification List	Student Assessment	RefId	A1 (->91161 qualitative analysis. 4 credits achieved with merit)
	Student Assessment	RefId	A2 (-> 91165 organic compounds.. 4 credits achieved with merit)
	Student Assessment	RefId	B5 (-> 91261 algebraic methods.. 4 credits achieved with merit)
	Student Assessment	RefId	B6 (-> 91262 calculus methods.. 5 credits achieved with excellence)
	Student Assessment	RefId	etc …

3 Logical Data Model

The concepts introduced in the conceptual models and data requirements examples above are realised in the StudentAssessmentRegistration, AssessmentTask, StudentAssessmentTask, StudentAsssessmentTaskResult & StudentAttainment data objects.
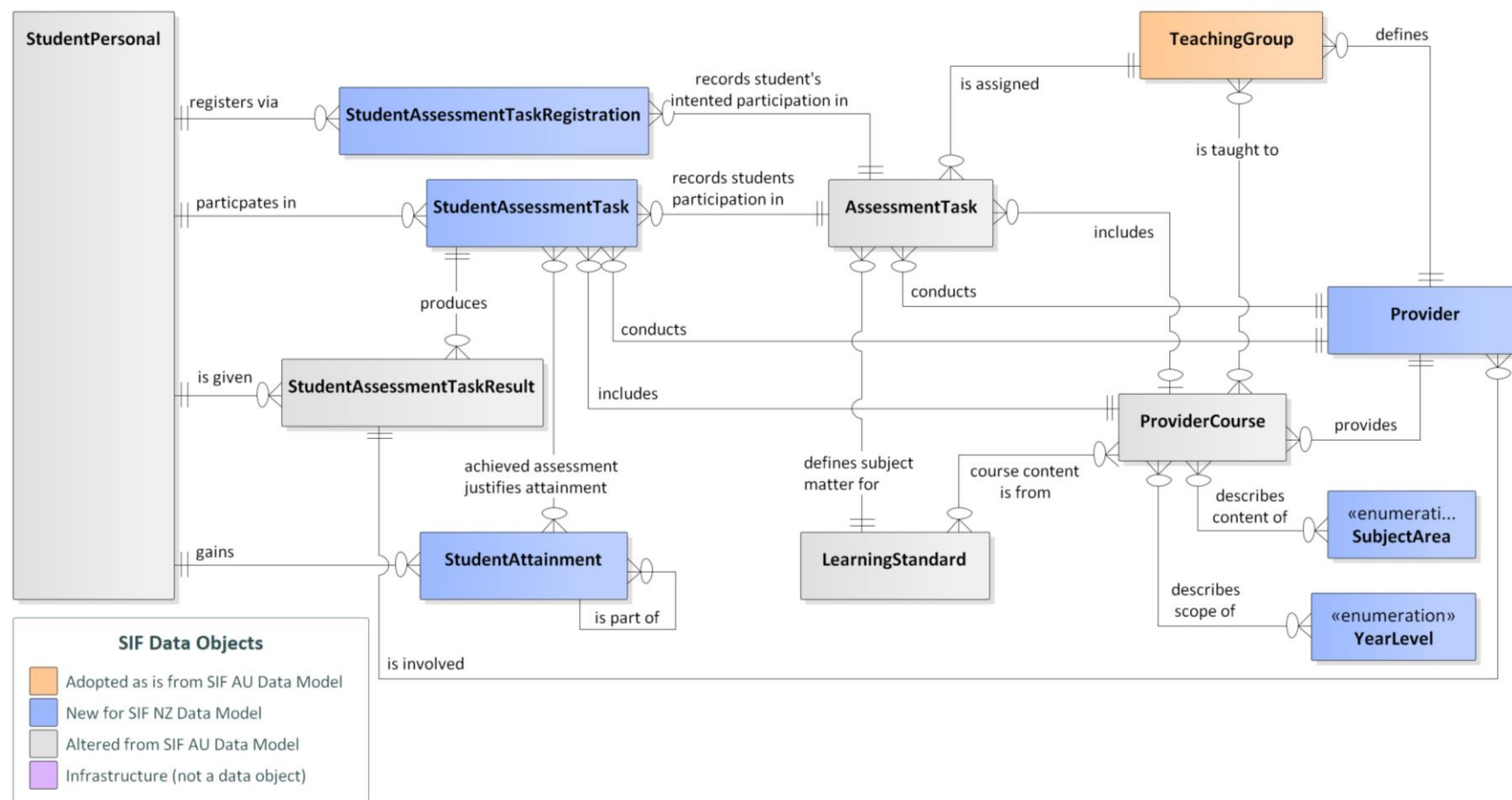
3.1 Assessment Logical Data Model

Figure 4: Assessment - Logical Model

3.2 Attainment Logical Data Model

StudentAttainment records the Student having "Passed" an AssessmentTask, a particular LearningStandard, a particular ProviderCourse or being granted a particular Credential.
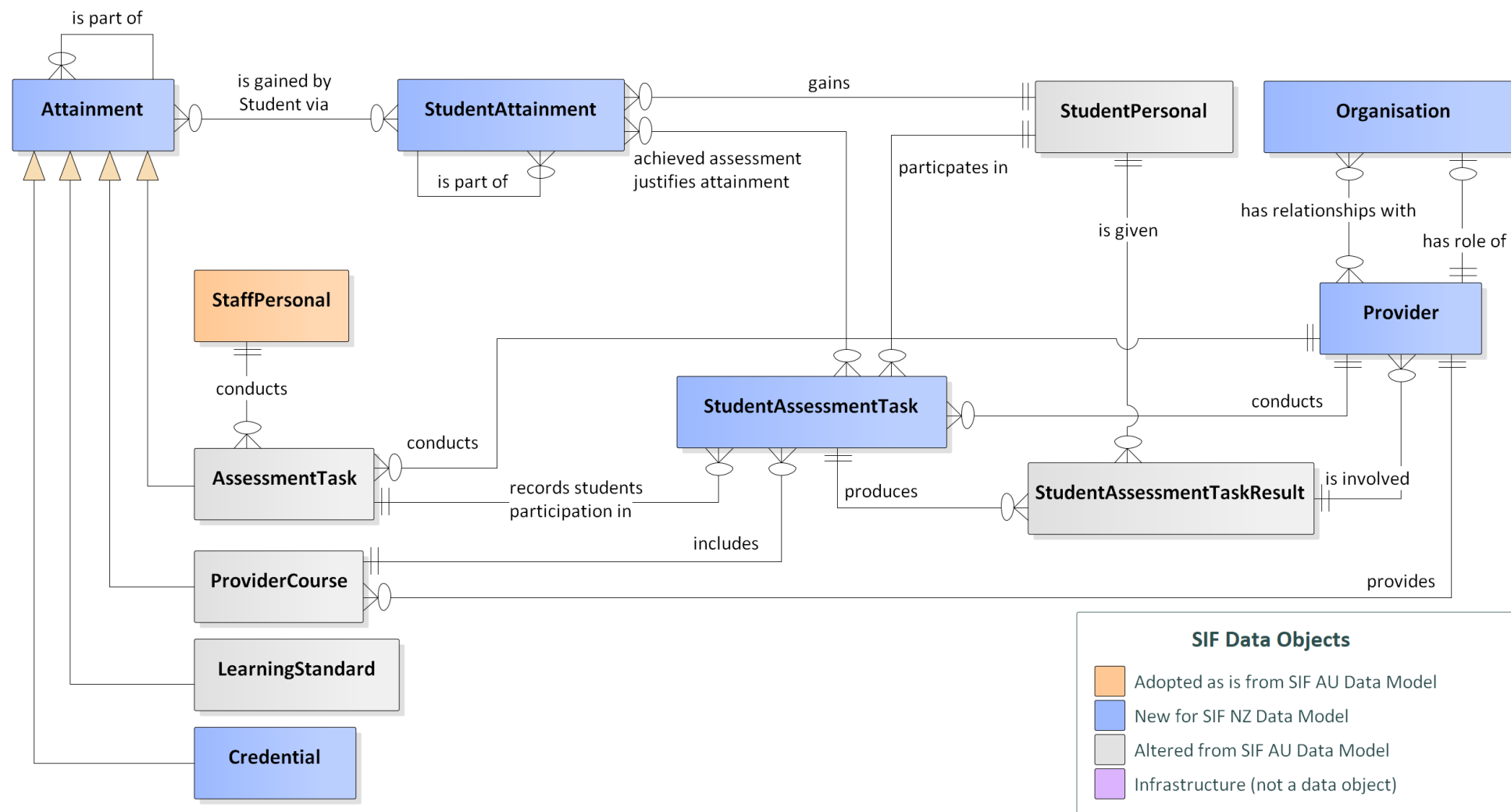

Figure 5: Attainment - Logical Model

4 Assessment Task Data Object

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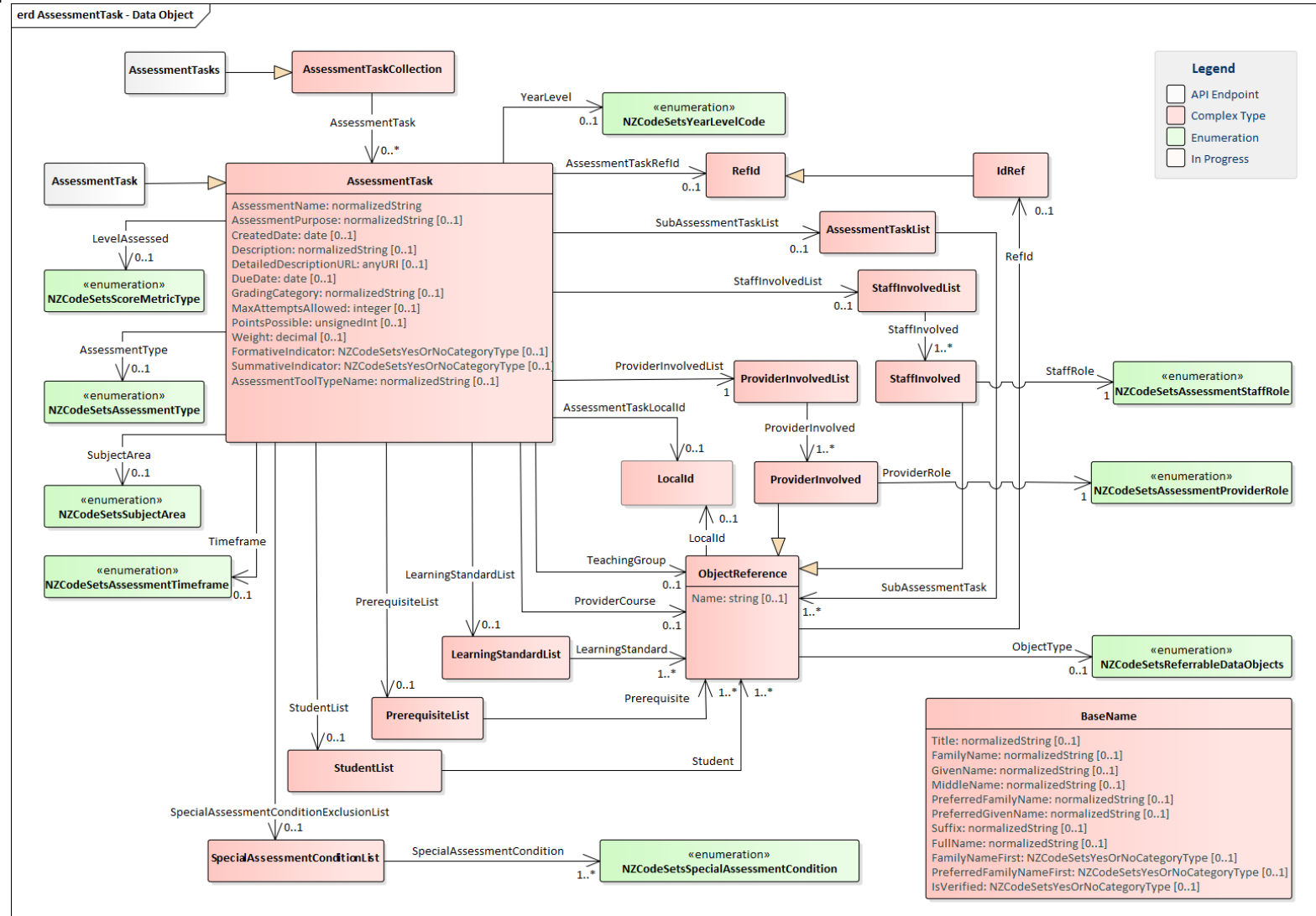

Figure 6: Assessment Task Data Object

5 Student Assessment Task Registration Data Object

When an assessment is conducted by or on behalf of an external agency (e.g. NZQA or Cambridge Education), then details of a Student's registration to be assessed at some point in the future are recorded in the StudentAssessmentTaskRegistration data object (with matching API endpoints):

Figure 7: Student Assessment Task Registration Data Object

6 Student Assessment Task Data Object

When an assessment is conducted by or on behalf of an external agency (e.g. NZQA or Cambridge Education), then details of when the Student was actually assessed, and under what conditions, are recorded in the StudentAssessmentTask data object (with matching API end points).
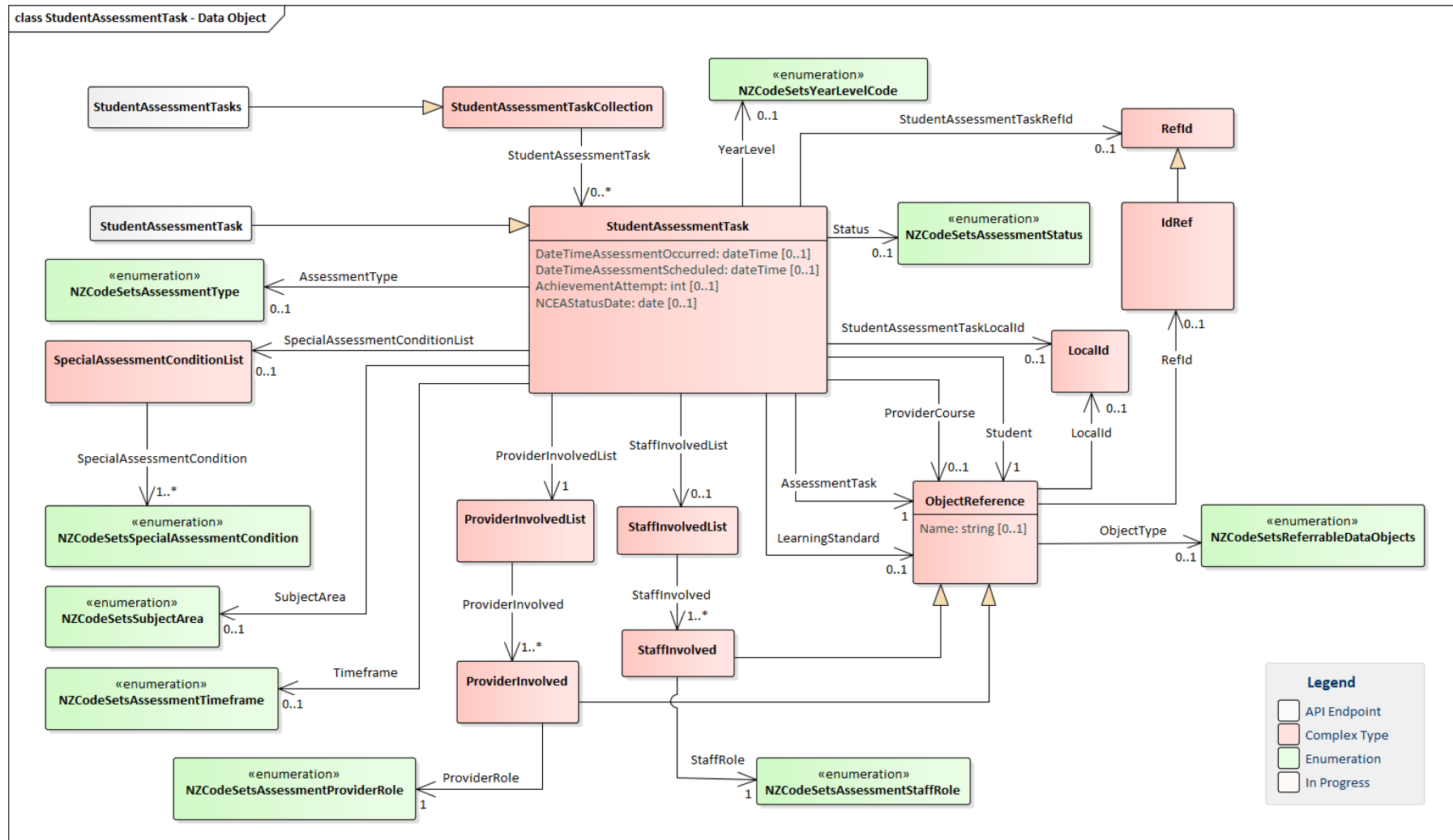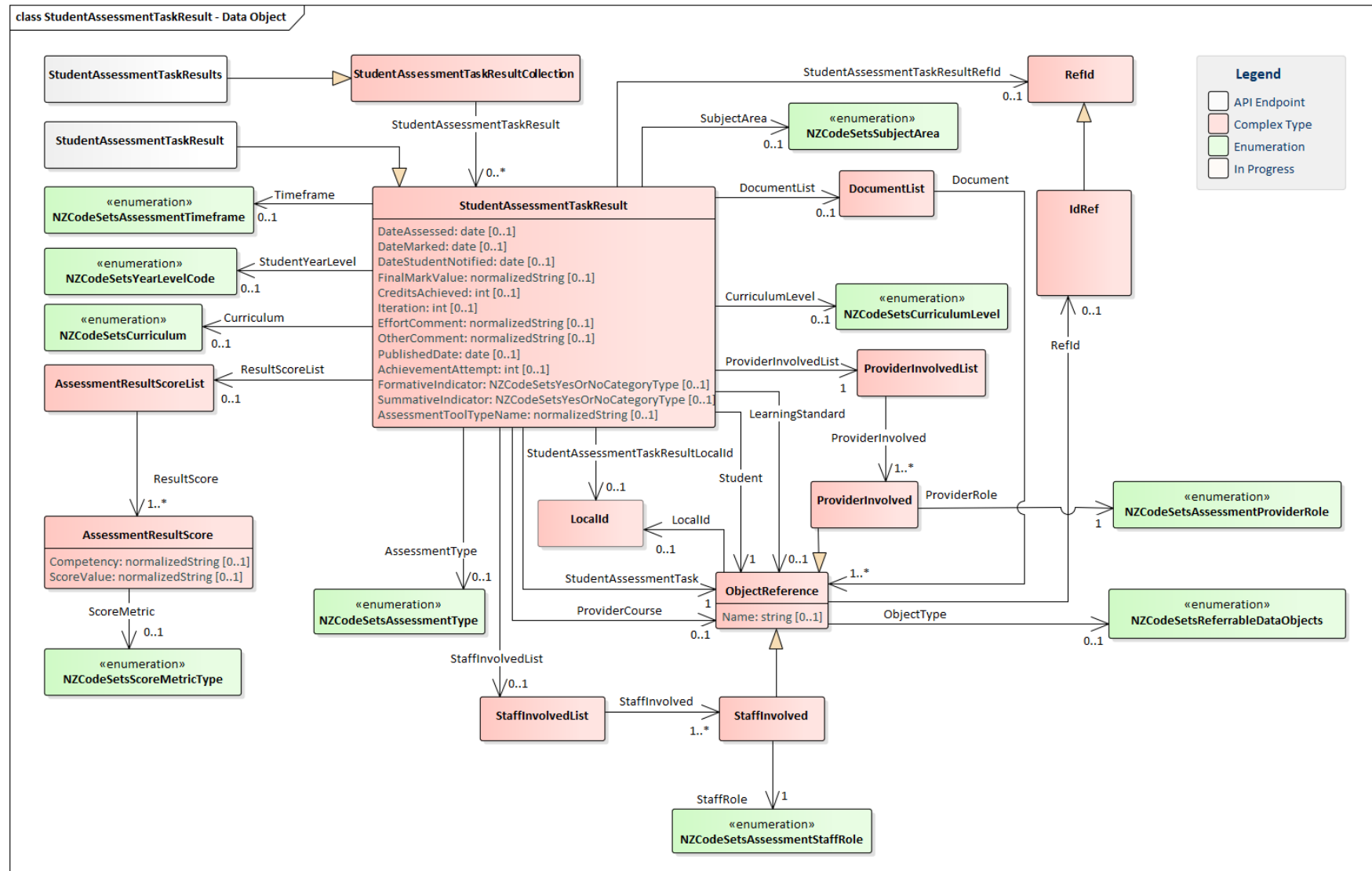

Figure 8: Student Assessment Task Data Object

7   Student Assessment Task Result

Once an assessment has been conducted, each Student's results are recorded in the StudentAssessmentTaskResult data object (with matching API endpoints):

Figure 9: Assessment Task Result Data Object

8   Student Attainment Data Object

A student's achievement of qualifications or credentials (e.g. NCEA Level 1, by accruing sufficient credits from LearningStandard based AssessmentTasks) are recorded in the StudentAttainment data object (with API endpoints).
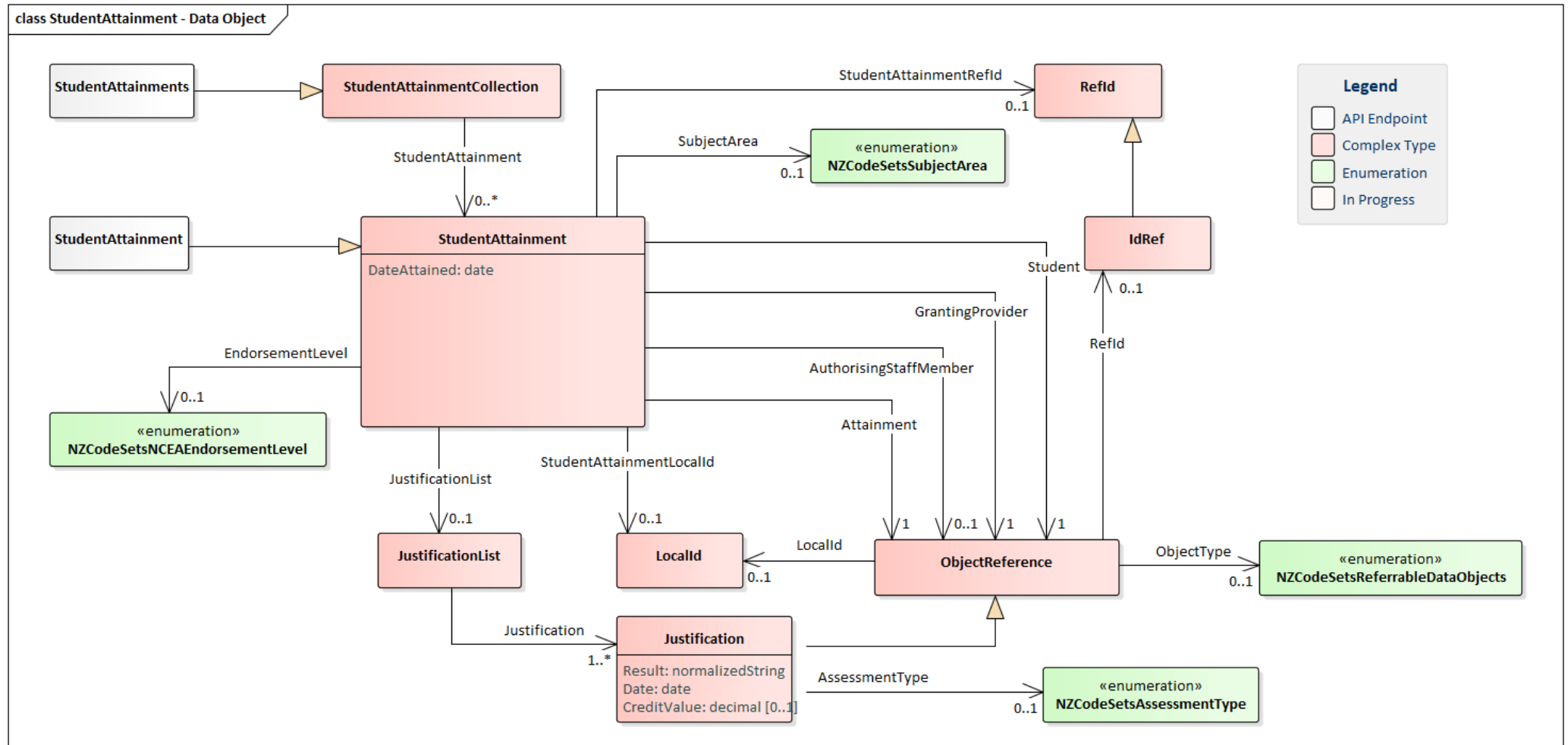

Figure 10: Student Attainment Data Object

The Attainment object reference refers to any one of the following data objects:

- **Assessment Task** – to record the Student having achieved passed a particular assessment.

- **Learning Standard** – to record the Student having achieved a particular learning standard; (e.g. 91162 v2 (2.2) – Carry out procedures to identify ions present in solution).

- **Provider Course** – to record the Student having passed a particular course; (e.g. NCEA Level 2 Chemistry with Merit).

- **Credential** – to record the Student having been granted a qualification or other credential; (e.g. NCEA Level 2 with Excellence).

The JustificationList set of object references refers to any of the following data objects:

- **StudentAssessment** – to record the student's favourable assessment having contributed to the granting of the Credential.

- **AssessmentTaskResult** – to record the student's actual assessment score having contributed to the granting of the Credential.

- **LearningStandard** – to record the student's passing a particular Learning Standard (irrespective of assessment score) having contributed to the granting of the Credential.

9 Document Control

9.1 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	29 Oct 2018
1.0	Using generic object references; updated to match SIF NZ v3 (rc1).	Stuart McGrigor	4 Jul 2019
1.1	Updated to match SIF NZ v3 (rc2). Names of RefId and LocalIds changed to be unique for each object. Cardinality of data objects fixed.	Amy Orr	19 Jul 2019

9.2 Glossary of Terms – NZ Education Sector

The following are terms adopted by NZQA and education sector agencies with respect to programmes, qualifications and assessments.

[Ref: *http://www.nzqa.govt.nz/assets/Providers-and-partners/Registration-and-accreditation/guidelines-approval-programme-accred.pdf*]

Achievement standard	A coherent set of learning outcomes and associated assessment criteria, together with technical and management information that supports delivery and assessment; achievement standards specify three different standards of performance and the method of assessment, which may include national external assessment.
Assessment standard	The collective term for unit standards and achievement standards listed on the NZQA Directory of Assessment Standards.
Components	Parts of a programme (or training scheme), which together make up a coherent arrangement of learning or training. Components include projects, papers, courses, modules, practicum and skill and assessment standards
Industry training organisation	A body recognised by the Tertiary Education Commission under the Industry Training Act 1992 as having responsibility for setting standards and arranging the delivery of industry training for a specific industry or area of industry identified in a Tertiary Education Commission gazette notice.
New Zealand certificate or diploma	A qualification that meets the requirements for listing on the NZQF at Levels 1-6.
Programme (approved)	An approved programme is a coherent arrangement of learning or training that is based on clear and consistent aims, content, outcomes and assessment practices, which leads to a qualification listed on the NZQF. A "programme" in this document is a "course" in terms of sections 258 and 259 of the Education Act 1989.
Qualification	Formal certification for a given purpose of the achievement of specified learning outcomes to a given standard.
Qualification strand	A specialisation within a qualification that represents a major component of the qualification, and is at the level of the qualification. Strands are documented through strand-specific outcomes in the graduate profile.
Quality assurance body	NZQA or New Zealand Vice-Chancellors' Committee (also known as Universities New Zealand).
Stakeholders	Individuals, groups, or organisations with an interest (or "stake") in the outcome of a qualification.

9.3 Related Documents

Document Title	Link
National Standards Data Set Definition for Overall Teacher Judgment and Assessments [v1.0 May 2010]	
ESDM: Qualification and Standard Definition Logical Model Report Draft Version 0.8	*ESDM in FileNet*
ESDM: Results Logical Report Draft Version 0.8	*ESDM in FileNet*
SRT Assessment and Attendance XML Schema	SRT Business Support Team
NZQA Secondary Schools Data Exchange Specifications Manual (Feb 2016)	NZQA
NZQA Guidelines for applying for approval of programmes leading to NZ qualifications at levels 1-6 on the NZQF	*NZQA Guidelines*
Common Education Data Standards	*https://ceds.ed.gov/*
NZ Maths	*https://nzmaths.co.nz/*
TKI Assessment Online	*http://assessment.tki.org.nz/*
NZCER STAR Reading Test	*http://www.nzcer.org.nz/tests/star*
2015 for 2016 Roll Return Specification Manual v.22.2	*Filenet Link*