MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

DELTA Programme

Student Information Sharing Initiative Report

FINAL

22 June 2016

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This report outlines the Student Information Sharing Initiative (SISI) project's progress to improve the management of student data.

The Ministry is addressing the problems of vital student data not following the student through their learning journey and inconsistencies in capturing student data.

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The vision for managing student data is about quality information being available, improving support for students, a unified view of learning data and ensuring privacy of information.

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The scope of the current SISI project is limited to exchange of student data in the Compulsory education sector.

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Challenges faced by schools when managing student information include non-standardised SMS practices, data, and IT environments within individual schools.

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The SISI project engaged with the sector and stakeholders to identify the drivers for improving the management of student information. These drivers include:

- lifting student achievement,
- increasing administrative efficiency,
- clarifying the relationship between the sector and the Ministry.

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The SISI project examined three options to improve the quality, access and portability of data within the student management systems (SMS):

1. Status Quo - Multiple SMSs
2. One SMS product for all schools
3. An integrated solution with multiple SMSs.

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To examine these options, the project engaged with the sector and critical stakeholders by:

- facilitating on line discussions,
- conducting visits and interviews,
- facilitating workshops, and
- providing updates via email.

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Based on these discussions, the recommended approach is to progress Option Three (An integrated solution with multiple SMSs).

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The benefits of the proposed solution include:

- Students will have access to information they need about themselves and their lifelong education journey.
- Relevant stakeholders have information they need to improve student achievement.
- Communities of Learning can set shared goals for their students' educational needs based on a common set of more complete, timely and accurate student data.
- Timely, accurate and comprehensive reporting and analysis by schools is enabled through access to information from a variety of sources, thereby enabling engagement and raising achievement.
- Longitudinal analysis to include home schooling, early learning, and tertiary education data can be enabled.

The proposed solution will:

- Include standardising data with an open, industry supported standards interoperability framework that facilitates the ability of diverse applications to interact and share data within the school sector, when authorised.
- Establish a student repository to store the core student information. The system interoperability framework will allow information to be exchanged accurately, efficiently and economically.
- Ensure confidentially of student information between schools.

The proposed solution will have three major work streams:

- Workstream I will improve sector capabilities as a foundation for successful management and exchange of student data in support of achievement.
- Workstream II will develop a student information sharing service.
- Workstream III will establish sector standards and governance.

2. Introduction

2.1. Purpose

This report outlines the SISI project's progress to improve the management and exchange of student data.

2.2. Background

Student Management Systems (SMS) are software applications developed to manage day-to-day operations for a school. They are used by 99% of New Zealand schools.

The Ministry is addressing two problems with student data:

- Vital student information is not following the student around as they move through different schools.
- No common understanding or approach to what student data is captured and how to capture it.

In March 2015 the Ministry launched an initiative to consider the ongoing strategy and use of SMSs. The initiative was subsequently renamed as the Student Information Sharing Initiative (SISI) to reflect the focus on ensuring that core student information is readily available to those with authorised access.

3. Vision

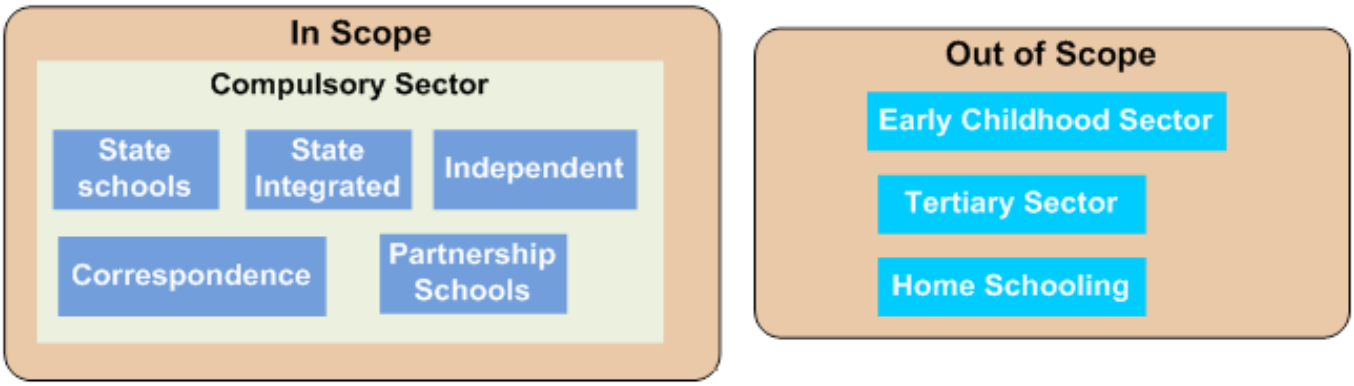
The vision for managing student data is:

- Quality information is readily available to the student and those who play a part in the student's achievement throughout their educational journey.
- Resources previously allocated to inefficient administrative processes are available to support the student.
- There is a unified strategic view of quality student data, school administrative practices, and vendor engagement.
- Students, teachers and caregivers have confidence that private information is well protected.

4. Scope

The scope of the current SISI project is limited to exchange of student data in schools in the compulsory education sector as shown in the diagram below.

It is intended that future projects will include improved management of student data for home schooling, early childhood and tertiary sectors. These projects will progress when SISI is completed, as this will enable data flows across the entire learning pathway.



5. Challenges Facing Schools

Schools are self-governing and self-managing entities, and choose the SMS that meets the needs of their students and community.

Many schools customise their SMS to work with differing internal school administrative; this has resulted in non-standardised SMS practices, data, and IT environments in schools.

This inhibits progress in the following areas that are emerging as priorities:

1. The need for student data to follow the student through their lifelong learning.
2. The growing importance of data to support collaboration between schools.
3. The ability for schools to share achievement information with parents and whanau and to encourage community involvement in learning.

6. Drivers for Change

The SISI project engaged with the sector and stakeholders to identify the drivers for improving the management of student information. These drivers are as follows:

- Supporting teaching, learning and raising student achievement.
- Increasing students and stakeholder engagement.
- Providing better access to student information.
- Increasing administrative efficiency.
- Clarifying the relationship between the sector and the Ministry.
- Improving the quality of information available to support achievement and outcomes for priority students, including all Maori students.
- Ensuring the security and privacy of teacher, student and caregiver information.

6.1. Student Achievement

Access to information plays a vital role in lifting student achievement. Currently, critical learning time is lost when students transition to new schools, as schools frequently not have adequate information for fostering engagement for new students.

Student information can also lift achievement by increasing student and caregiver engagement, and by providing better support to students and teachers.

The information can also be used to help assess the success of educational initiatives.

6.2. Student and Stakeholder Engagement

Engaged students have higher achievement. Students also benefit when caregivers are engaged in schooling through the school and at home.

Students require timely feedback about their work, achievements, and progress. This keeps students engaged in the effect of their efforts on their work and goals. Also, caregivers with access to their children's information can increase their involvement in the students' learning over time.

6.3. Access to Student Information

Providing key stakeholders (e.g. schools, teachers, students, caregivers) with access to student information helps students achieve their goals and aspirations, and creates a more supportive environment for learning.

6.4. Administrative Efficiency

The sector suffers from a complex administrative environment, lack of interoperability between systems, manual re-entry or manipulation of information, and lack of common processes to deliver similar services.

This results in high overhead for schools. There is a need to reduce the administrative workload on teachers and staff by increasing the efficiency of administrative tasks across the education sector.

6.5. Strategic Leadership

The sector has indicated through feedback that the Ministry needs to play a greater role in improving the efficiency of administrative operations across schools and in ensuring a fair, equitable relationship between key vendors of SMSs, the education sector and the Ministry.

Efficient operations are hindered by a lack of common processes and approaches to similar school functions. There are also inefficiencies in schools' relationships with vendors of SMSs. Vendors must juggle schools' requirements, Ministry requirements and their own work plans. There is an opportunity for the creation of economies of scale when implementing sector wide changes to SMSs.

6.6. Quality of Information

Quality information is necessary to realise the full benefits of using information to support students and teachers, raise achievement, and keep students and caregivers engaged.

For schools, teachers, students, caregivers and other key stakeholders to realise the benefits of sharing information about a student's education journey, the information must be useful, accurate and complete. Key barriers to this in the current environment are that there is no standard with which to define quality information, and that data quality is not always enforced at the point of data entry.

6.7. Security and Privacy of Information

Teachers, students and caregivers must have certainty that their information is only accessible to authorised parties and according to acceptable use. There is mistrust in the sector about access and use of student information. There is also uncertainty about ownership of student information and the obligations and responsibilities of managing the information.

7. Options to Improve the Quality, Access and Portability of Data

The SISI project examined three options to improve the quality, access and portability of data within the student and school management systems. They are:

1. Status Quo - Multiple SMSs
2. One SMS product for all schools
3. An integrated solution with multiple SMSs.

As part of the project the sector expects the Ministry to clarify its role as a steward with a focus on:

- Defining standards around data/privacy/security and reliability of services.
- Improved buying power; currently schools purchase SMS services individually.

7.1. Status Quo - Multiple SMSs

This is the current model in the compulsory school sector. There are currently five dominant SMS products used by 97% of schools; other smaller SMS providers are entering the market.

Because the SMS market is competitive and individual vendors win and retain business one school at a time, the sector has not self-regulated toward standardisation of SMS data types. This lack of standardisation means that SMS data, good practice and IT solutions developed within schools cannot be effectively shared across the sector.

Benefits and risks of this option are as follows:

Benefits	Risks
The current model is a market model providing schools with choice.	Data availability as students move between schools is limited and not available on demand. Up to 90% of student data is re-keyed as students transfer between schools. Parents access to data via the parent portal varies among SMS
Many schools have customised their SMS to work best with internal school administrative processes.	Schools find it difficult to share data for comparative analysis.
Schools have invested heavily in training for their current system.	A change in SMS may result in a loss of intellectual knowledge within a school or disruption to existing modes of teaching, learning and communication.
Satisfaction levels for the two most popular SMS are high.	Multiple SMS present significant costs for schools. Smaller schools see the pricing models of SMS as expensive. Teachers moving between schools often have to relearn systems. Some schools employ experienced technicians at considerable cost.
	229 schools have changed SMS in the last 19 months. Some SMS are perceived as having low usability.
	Funding for Ministry projects must be shared across multiple vendors and testing carried out on multiple systems
	Does not resolve challenges for schools related to student data.

7.2. One SMS product for all schools

In the past the compulsory school sector rejected the suggestion of one SMS provider, but in recent years some peak bodies have suggested this option. The number of SMS providers has reduced over the years; in 2004 there were 20 commercial vendors and 20 schools with an in-house SMS. Now products from five SMS vendors are used by 97% of New Zealand schools.

A single SMS product would have to be very flexible and versatile to meet the differing needs of large secondary and small primary schools. In addition some schools will be suspicious of a move to a centralised system and may refuse to make the change from their existing SMS.

Benefits and risks of this option are as follows:

Benefits	Risks
The Ministry can focus funding and testing on a single SMS product and, as a key stakeholder, exert influence on the functional direction, development priorities, and use of SMS.	There is a possibility of legal action against the crown from vendors losing business income and/or reputation. Some schools will be very reluctant to give up their existing service.
One SMS product will enable student data to be available in real-time as students migrate between schools. If students are enrolled in more than one institution, each institution will be able to access the data.	The SMS product will need to be very flexible and versatile to manage the very different needs of large secondary and small primary schools. Schools may not be able to customise it to work with internal processes.
One SMS product will open the door to in-depth and new reporting analysis (including longitudinal) and reduce the need for the Ministry and other government agencies to revalidate the information they receive from schools.	Some schools, in particular primary schools, may be concerned about the Ministry access to one SMS product and refuse to adopt the new SMS. Schools cannot be compelled to adopt the new SMS.
As teachers move they will no longer require training in the use of a new SMS	Schools may see it as an extreme loss of existing professional development and knowledge – it will also require significant training.
Economy of scale will result in better pricing to schools and remote hosting and management of the SMS will reduce the need for technical resource at schools themselves.	A single SMS product creates a single point of failure; if the system fails it fails for all schools.
	It will take 2-4 years or more to develop a single SMS product and bring it to market and it may not have the full functions of the current SMS. It would be a cost to the Crown and the Crown would assume sole responsibility for meeting the requirements of all schools – this would not be considered core business.

7.3. An integrated solution with multiple SMSs

In this model schools would continue to have a relationship with their chosen SMS vendor and SMS vendors would continue to provide value-added services to schools. The Ministry would have a stewardship role.

This model is of integration between schools and SMSs through a central repository with data standards to facilitate the exchange of data.

The repository would hold standard core student information with interoperable services between schools and with the Ministry. This model was proposed by education sector representatives.

Benefits and risks of this option are as follows:

Benefits	Risks
A centralised data repository will enable student data to be available in real-time as students migrate between schools. If students are enrolled in more than one institution, each institution will be able to access the data.	Some schools, in particular primary schools, may be concerned about the Ministry access to a centralised data repository, and the potential use of data, and refuse to adopt the new SMS technology approach.
A centralised data repository will open the door to in-depth and new reporting analysis (including longitudinal). It will improve the ability to track and analyse student achievement .	If the new service is not reliable, it could disrupt schools and Ministry processes.
The centralised data repository will reduce school time and overheads involved in reporting to the Ministry. SMS vendors can use core student information from the central repository to streamline existing school processes.	Smaller SMS vendors may not have the capability to build an interface that uses the new services and complain they are excluded from the market.
The Ministry can become a key stakeholder and influence the functional direction, development priorities and use of SMS.	

8. Approach to Examining the Options

To examine the options the project engaged sector representatives and stakeholders who are critical to improving the management of student data. This included an online discussion group of 220 people, a working group of 19 sector representatives, 26 school visits and interviews, presentations to peak bodies and monthly and ad hoc meetings with SMS vendors.

Appendix A provides more detail on these groups and discussions.

9. Findings

Based on analysis and discussion of the options with the sector and stakeholders, the conclusions are as follows:

- The current status quo of multiple SMS's will not address the issues currently facing schools.
- A single provider delivering one product for all schools (a single provider) can address challenges facing schools; however there are significant legal, adoption and single point of failure risks.
- Interoperability standards and a central data repository can address challenges facing schools with a low level of risk.

The recommended approach is to progress Option Three (one SMS solution for standardised data and a centralised data repository).

10. Proposed Integrated Solution with multiple SMSs

The proposed solution would provide integration between schools and SMSs through central repository with data standards to facilitate the exchange of data.

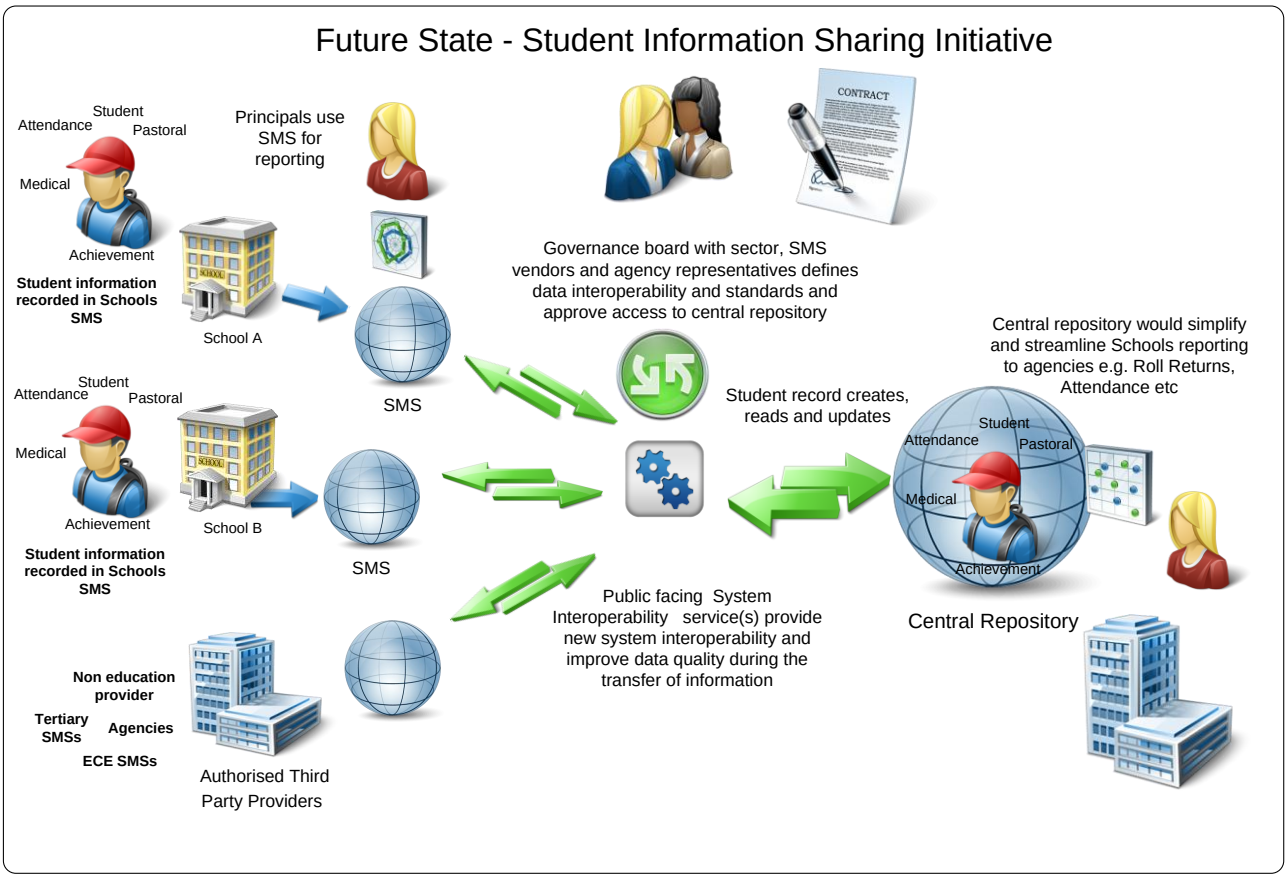
10.1. Data Exchange and Repository

The solution would establish a student data repository to store and exchange core student information. When a student moves between schools, the core student information entered by teachers and administrators in their SMSs is transferred via the repository to the new school.

SIF will allow information to be exchanged accurately, efficiently and economically.

A governance group would act as guardian of the information in the learner repository and approve new data standards. The governance group will be made up of sector, agencies and Ministry representatives.

The proposed solution is illustrated below.



10.2. Standardising Data with SIF

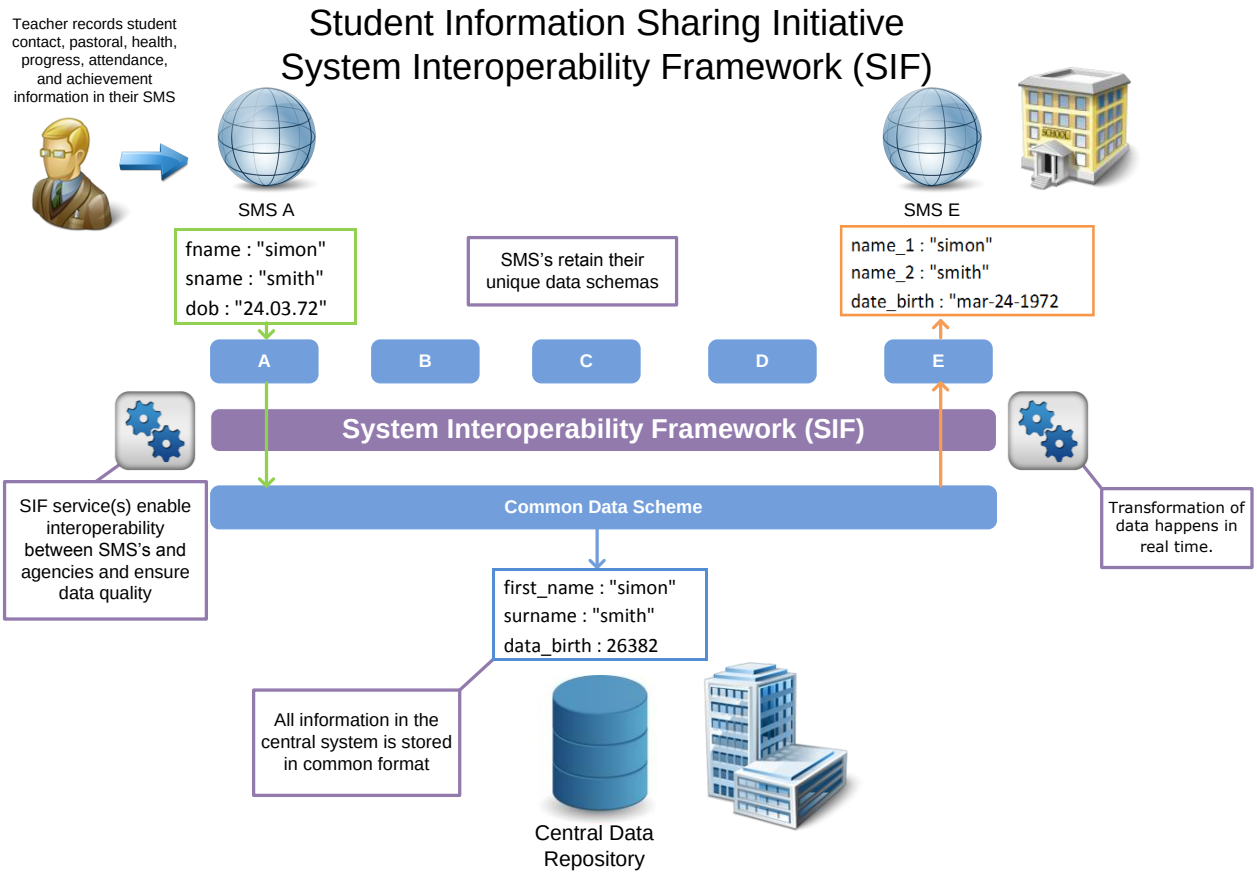
Interoperability will be based on standardising data. This will allow information to be exchanged accurately, efficiently and economically. The Ministry is currently evaluating the System Interoperability Framework (SIF) as a basis for data standards. Two SMS vendors in the New Zealand marketplace are currently compliant with SIF.

About SIF

SIF is an open, industry supported standard that facilitates the ability of diverse applications to interact and share data within the school sector. SIF is well established in the US, the UK and Australia.

SIF defines a common data schema to which existing systems, such as SMSs can map. This allows two systems which may define data differently to interact through a third, common, definition.

In the example on the following page, System A uses the fieldname “sname” while System E refers to this as “name_2”. Within the standard schema, this is known as “surname”. All three understand each other through SIF transformation. A more complex example is the date, which is stored in different text formats by the SMSs, but centrally in a single numeric format.



Value of SIF to Schools and Vendors

- Schools will have near real time access to student data, where authorised.
- Interoperability will be enabled by a common interpretation of data between schools and SMSs.
- Schools will have higher quality data because it will be validated before it is stored in the SMS and exchanged between schools.
- Costs to schools will be reduced because interoperability standards reduce complexity and integration costs.
- Existing systems will not have to change their database design.
- A standard data schema will provide a common baseline between variations in SMSs.
- Setup and configuration costs for New Zealand will be mitigated by leveraging Australia's investment in SIF.
- For SMS vendors, transition between New Zealand and Australian marketplaces will be easier. Also, two key vendors in the NZ marketplace are SIF compliant.

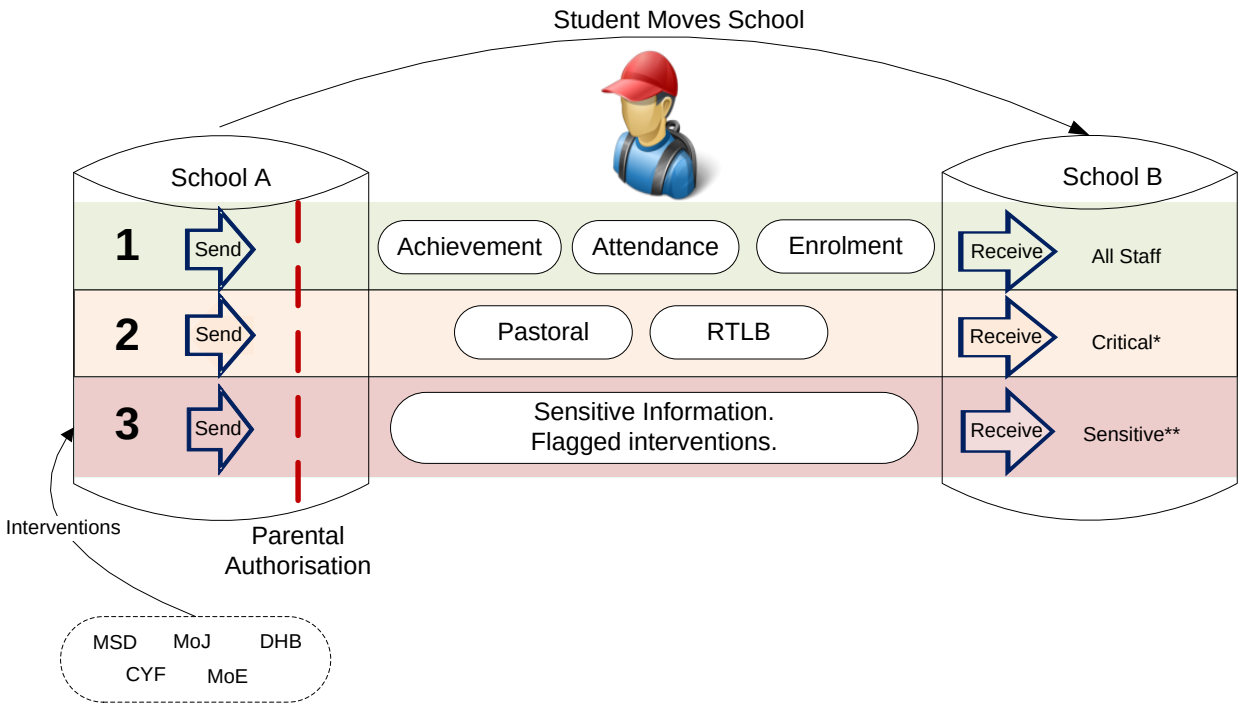
10.3. Confidentiality of Information

Maintaining confidentiality of student information is a complex but critical aspect of exchange of information between schools. Any technology solution is likely to fail unless all stakeholders have complete trust in the system.

It is essential that students or their caregivers as the owners of the data on behalf of students have authority over information that they might not normally see, and that information is only given to those with the proper authorisation with schools. For example, with court ordered custodial access. Additionally, the Ministry must only have access to information as required by law or as authorised by caregivers[1]

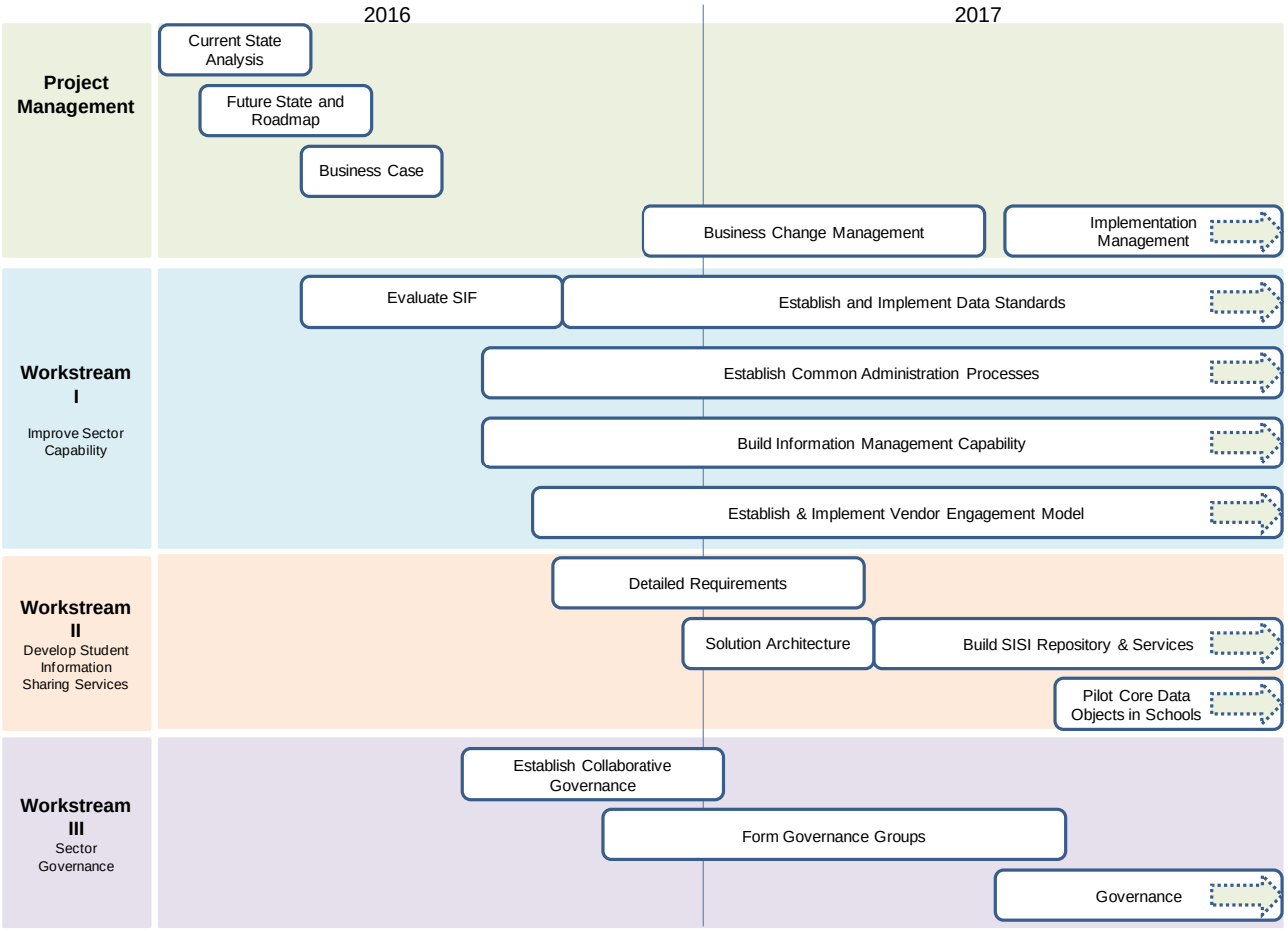
[1] Some achievement, attendance and enrolment data is sent to the Ministry. Data will be accessed or used by the Ministry only as permitted by law or information owners.

The diagram below illustrates the proposed privacy and security solution.



10.4. Roadmap to the Proposed Solution

The diagram below illustrates a proposed road map over the next two years.



10.5. Workstreams

The proposed solution will consist of three major work streams:

Workstream I - Improve Sector Capability

Workstream I will consist of steps to improve sector capabilities as a foundation for successful management and exchange of student data in support of achievement.

Data Standards (SIF)

The first step towards successful data exchange is the establishment of standards. The Ministry is currently evaluating SIF, an open, industry supported standard that facilitates the ability of diverse applications to interact dynamically and share data within the school sector. SIF is well established in the US, the UK and Australia. The suitability of SIF for the New Zealand educational sector will be examined by comparing the SIF data schema with schemas used by New Zealand SMS vendors and representative schools. The cost-benefit of altering SIF to suit the New Zealand education sector will then be assessed. Careful and proper evaluation and implementation of SIF (or other standard) will avoid significant ongoing costs to schools and the Ministry associated with inadequate data quality and lack of support for student achievement.

Common Administrative Processes

Data standards alone do not produce quality. The production of standard quality data between schools requires common quality administrative processes, in the same manner that the production of quality goods by a factory requires proven manufacturing methods that are common across an industry. Concurrent with the implementation of data standards will be the improvement and rationalisation of common administrative processes across the schooling sector. Appendix B shows the current administrative processes performed by most schools, and details differences between types of schools which may offer opportunities for reducing the complexity of the administrative environment.

Information Management

As with many organisations, information management within schools is often ad-hoc and practiced in silos. Staff are focused on student achievement, therefore methods of managing information are often are not based on best practice. Opportunities exist for the Ministry to work with schools to improve their knowledge of and capabilities for more efficient and effective methods of information management as well as for getting more value from their SMSs.

Opportunities also exist for improving the understanding of and practices for maintaining confidentially of student information within and between schools.

Vendor Relationships

Ongoing school needs for support with information management and administrative processes have fostered growth of a robust SMS industry unique to New Zealand requirements. SMS vendors are responsive to user needs and provide effective support across a range of processes and types of schools.

Schools, vendors and students could each benefit from a more mature marketplace which provides economies of scale for schools, more efficient management of user requirements for vendors, and higher quality data in support of student achievement.

Workstream II - Develop Student Information Sharing Service

As sector capabilities are improved, a central, service based repository and supporting infrastructure for the exchange of standardised student data between schools will be developed.

This workstream will also provide, as needed, appropriate and in scope, technical implementation of related standards and practices developed in Workstream I, and ensure that confidentially of student information between schools is maintained as determined by legal requirements and acceptable use policy..

Workstream III – Sector Standards Governance

A sector led, collaborative governance framework for data interoperability standards, which includes sector representatives, vendors, and representatives of other interested agencies will be developed.

11. Sector and Stakeholder Benefits

Students, teachers, schools, the Ministry, and vendors will benefit from the combined approach of improving sector capabilities, implementing an information sharing solution, and establishing standards and governance.

11.1. Student Achievement

- Engagement in the student's achievement by the students and their stakeholders will be enabled through access to student information, when authorised.
- Students will have access to the information they need about themselves and their education journey.
- Access to their data allows students to be self informed and to play a more active role in their achievement
- Students are well prepared and positioned for achievement at each stage in their educational journey.
- Relevant stakeholders have the information they need to improve student achievement.
- Communities of Learning can set shared goals for their students' educational needs based on a common set of more complete, timely and accurate student data.
- Gaps and errors in student educational history are reduced; ensuring that information critical to a student's achievement will not be overlooked.
- Information about transient students can be readily available to other schools the student may attend.
- Reassessment of new students by schools will be reduced because assessment information is readily available.
- Schools will be able to analyse data from a variety of perspectives, including the ability to see patterns in achievement for targeted allocation of resources.

11.2. School Systems and Administration

- Timely, accurate and comprehensive reporting and analysis by schools are enabled through access to information, where authorised, from a variety of sources, enabling engagement and raising achievement.
- Standardised data will reduce the need to change and reformat data received from other schools.
- Reduced administrative complexity across schools will free resources that can be applied to improving student achievement.
- Communication between schools about incoming and leaving students will be enhanced through standard data and administrative processes.
- Standard common administrative practices reduce the need for training staff of that move between schools.
- Data standards will result in higher quality of data by reducing the time and cost of correcting errors.
- Schools will have a live and real-time student data backup solution with disaster recovery so that there are fewer risks to local data being lost.
- Privacy and security of student information will be improved, ensuring that data will not be accessed by unauthorised parties.

11.3. Ministry

- The Ministry has more current, complete and up to date enrolment information which can be analysed across the sector.
- Groundwork is laid for better enrolment data for the Ministry.
- Higher quality data for internal Ministry reporting and analysis is provided.

11.4. Vendors

- Software providers can retrieve and update information in the central repository, reducing effort for vendors to custom build interfaces.
- The use of interoperability standards will reduce integration cost and complexity in the marketplace.
- Cost and effort for schools to implement or change SMS products will be reduced through data standardisation.
- Standard vendor engagement models between the Ministry, vendors and schools result in effective purchasing of management services.

12. Appendix A – Sector and Stakeholder Engagement

12.1. Stakeholder Engagement

To examine the options the project engaged sector and stakeholders who are critical to the success of SISI by:

- seconding a sector representative
- facilitating on line discussions
- conducting visits and interviews
- running workshops
- providing updates via email

Sector Representative to the Project Team

Tim Harper, of Mount Aspiring College, was seconded to the SISI project to ensure representation of sector input to the project. He has participated in various discussion forums with the sector, presented the SISI overview to key stakeholder groups, and held informal discussions with stakeholders in the sector and the Ministry.

Loomio Discussion Group

The SISI team used the Loomio online tool to facilitate discussion and collaboration. More than 220 people participated, the majority of whom represent the education sector. Vendors of SMS and learning management system (LMS) software, professional development providers and internal Ministry stakeholders also took part.

From these participants, a SISI working group was formed to provide feedback to the SISI project team. Members of the working group were encouraged to make proposals for student information, and the project team posted regular updates to share project activity and to receive feedback.

School Interviews

The SISI team conducted interviews with a range of schools based on size, location and type. Interviews were conducted via phone or on location interviews.

The interviews resulted in a compilation of school pain points regarding the management of student data. These pain points contributed significantly to development of the SISI vision, problems, goals and requirements. The interviews focused on:

- the school's use of the SMS,
- systems used to capture and store student information,
- sources of information for new students,
- use of student information while the student was attending, and
- use of information for leaving students.

School Visits

The SISI team conducted visits with a range of school types. Each on-site visit was for one to two days spent observing key processes and interviewing staff about management of student information.

The outcome of the school visits was a mapping of the processes schools perform when managing student information and identification of differences in processes to be considered when designing any solution. These are shown in Appendix B, School Administrative Processes.

Peak Bodies

Education sector peak bodies were updated on progress via regular emails. Additionally, presentations and meetings were held between the DELTA Director and the sector peak bodies.

Sector Workshops

Two workshops were held with the education sector representatives, SMS vendors and Ministry staff.

The inaugural workshop of the (then) SMS project was held in March 2015 with 37 participants from the sector and SMS vendors. The workshop focused on:

- presenting the 21st Century Digital Learning Vision,
- introducing the Education Sector Digital Strategy, and
- hands on sessions to validate and further define high level problem statements.

The second workshop was held in December 2015 with 39 participants from the sector and SMS vendors. It concentrated on:

- hands on sessions further defining the pain points collated from school interviews, Loomio discussions and lessons learnt from previous investigations,
- a session for SMS vendor pain points on their pain points, and
- prioritisation of needs.

A third workshop for working group feedback on this document was held on 28 April 2016.

Vendors

The Ministry maintained a close working relationship with vendors of SMS products through ongoing discussions as well as monthly and ad hoc meetings focused on the SISI project.

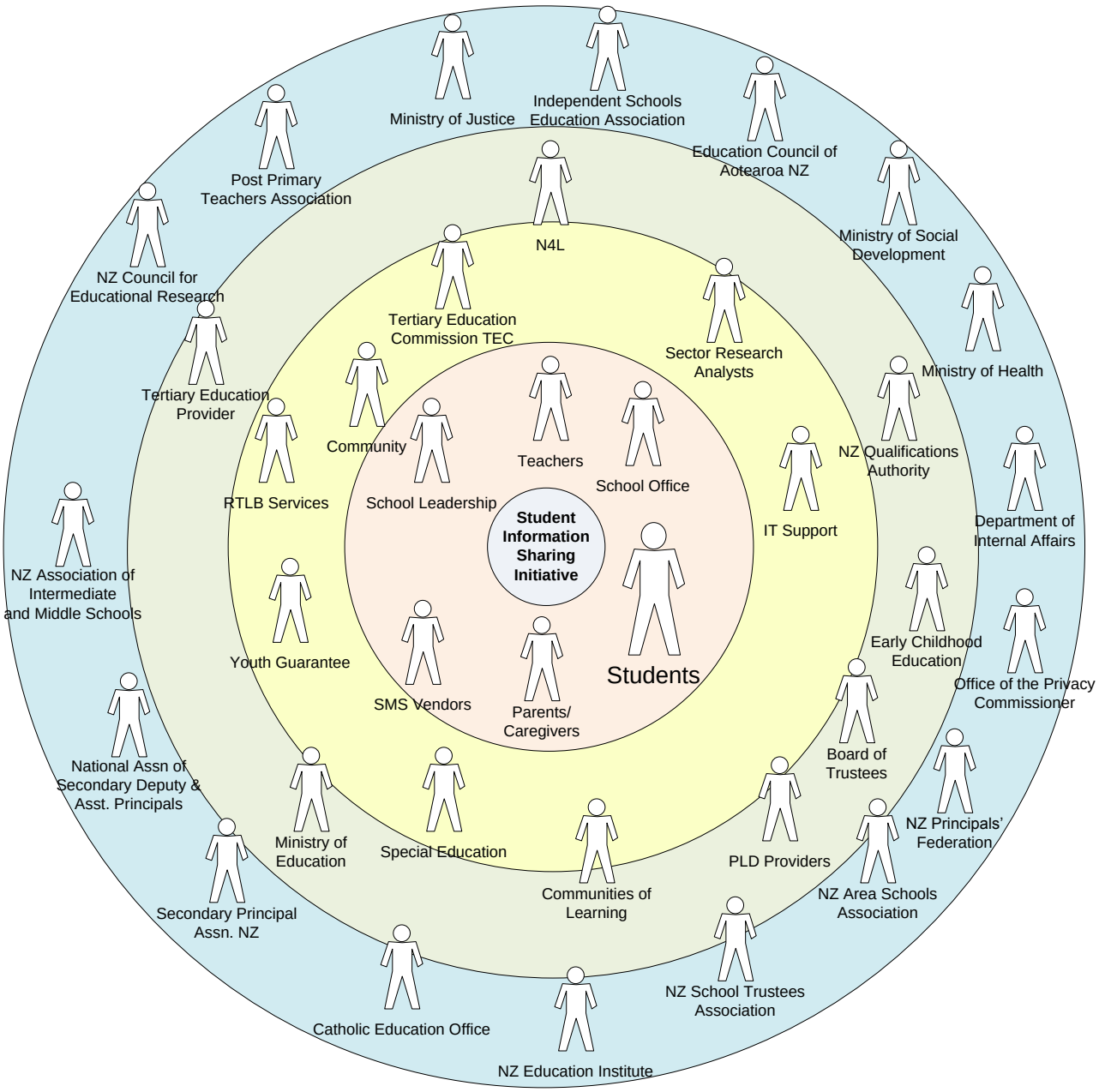
External Parties

Discussions have been held with external parties:

- Discussion with the Australian National Schools Interoperability Program (NSIP).
- Meeting with Tertiary Education Commission (TEC) provide an overview of the SISI project.
- Meeting with New Zealand Qualifications Authority on Tuesday 5 April 2016 to provide overview of the project.
- SISI High Level Requirements document was sent to TEC and NZQA.
- Meetings with the Ministry of Health to learn from the GP2GP project journey on 25 May 2015, 7 December 2015, and 28 April 2015.

12.2. Stakeholder Impact

The following diagram illustrates key sector and stakeholder groups and the likely impact to them of achieving the vision for managing student data.



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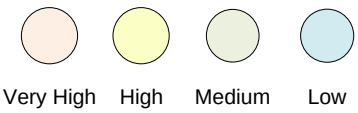


13. Appendix B – School Administrative Processes

Schools were visited for an in depth view how common administrative processes were performed at different types of schools. The following diagrams show the major processes related to the management and exchange of student information, and describe differences between school types.

13.1. Enrolment

Process Steps

The generic process is for schools to receive an enrolment form for a student well ahead of that student starting school. Schools will load the enrolment information into their SMS as they receive it. Only when the student starts at the school will their enrolment record be updated, assigned to a classroom at the schools and for the new school to receive information from the previous school. Some schools, for instance schools that are zoned, will keep a list of students intending to enrol at their school outside of their SMS. The students only get loaded into their SMS once their enrolment has been accepted. In some cases receiving vital academic and pastoral information from the previous school can take weeks to arrive after the student has started, this can hinder the student receiving the right support. This is more commonly an issue for those students who move horizontally through the year across schools, where there is no process in place for transitioning students from one school to another.

Key Differences between Schools

Step: Capture and store information from enrolment form.

- In some cases if the school and its contributing schools use the same SMS, an electronic exchange of information may occur which reduces the amount of information the receiving school has to manually enter.

Step: Find and validate NSN for the student:

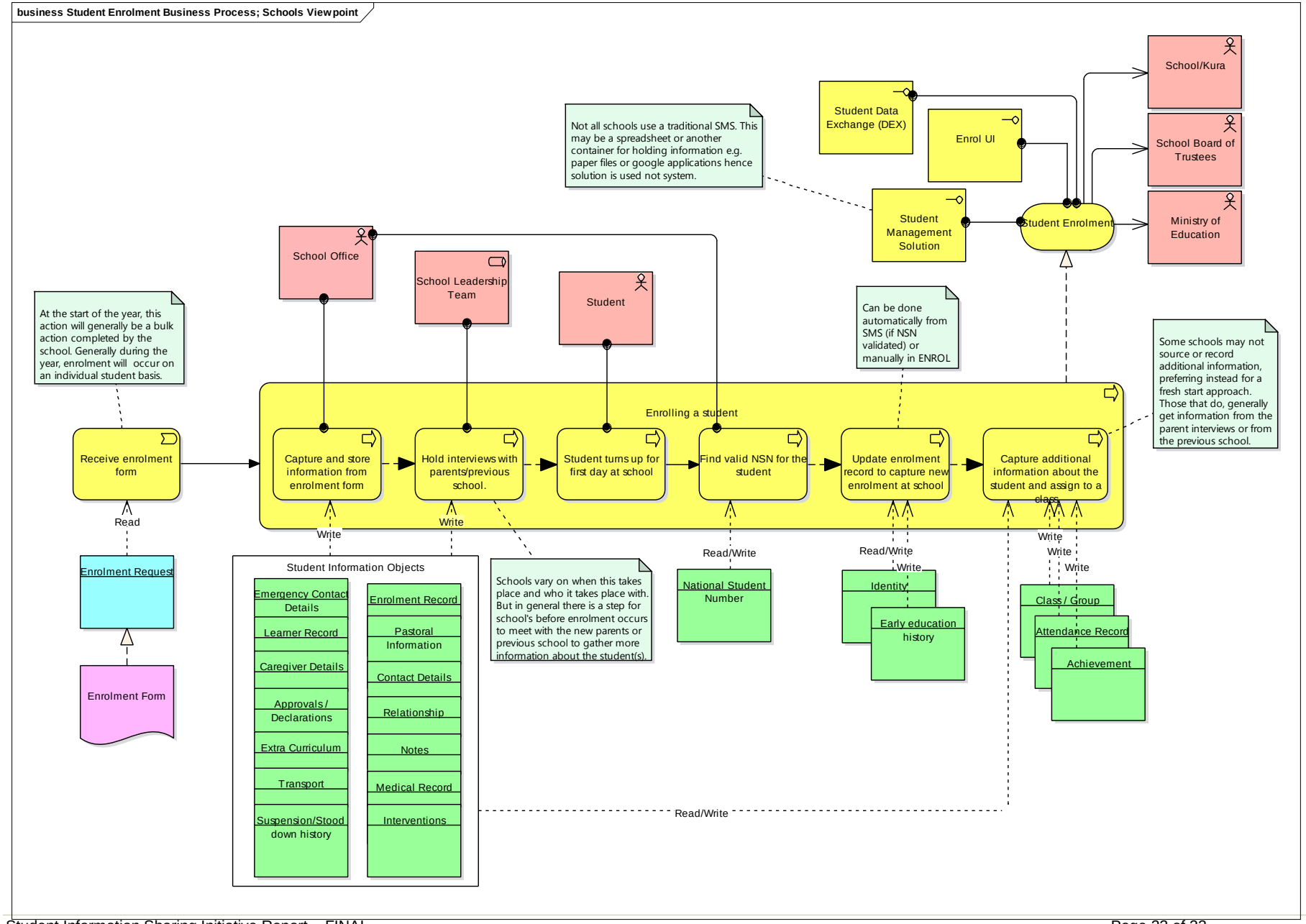
- If a student is enrolling for their first year of school, generally their NSN has not been validated. The sync between ENROL and the schools SMS can only occur for validated NSN's. Because of this, primary schools tend to manually enter the data in both their SMS and then re-enter it into ENROL.
- When creating the students ENROL record, the school must enter in the student's ECE history. Schools often add default information to this section waiting for the ECE information from the parents. It is then another manual step to go back in once this information is received and enter it into ENROL (replacing the default information with actual information).

Step: Update enrolment record to capture new enrolment at school:

- Even though there are attention flags in ENROL, this is not commonly used because they are seen to be unreliable. Most schools don’t update them and don’t expect other schools to have updated them either.
- It is easier for the school to discuss all students with their previous school and identify and learning or pastoral needs from those conversations.
- When creating the students ENROL record, the school must enter in the student's ECE history. Schools often add default information to this section waiting for the ECE information from the parents. It is then another manual step to go back in once this information is received and enter it into ENROL (replacing the default information with actual information).

Step: Capture additional information about the student and assign to a class

- Other information will vary between schools, e.g. some schools get a cyber security document from their students, others may receive an exit form from their previous school, and others may have nothing additional to enter.


business Student Enrolment Business Process; Schools Viewpoint
School/Kura
School Board of Trustees
Ministry of Education
Student Data Exchange (DEX)
Enrol UI
Student Management Solution
Student Enrolment
Not all schools use a traditional SMS. This may be a spreadsheet or another container for holding information e.g. paper files or google applications hence solution is used not system.
School Office
School Leadership Team
Student
At the start of the year, this action will generally be a bulk action completed by the school. Generally during the year, enrolment will occur on an individual student basis.
Can be done automatically from SMS (if NSN validated) or manually in ENROL
Some schools may not source or record additional information, preferring instead for a fresh start approach. Those that do, generally get information from the parent interviews or from the previous school.
Enrolling a student
Receive enrolment form
Capture and store information from enrolment form
Hold interviews with parents/previous school.
Student turns up for first day at school
Find valid NSN for the student
Update enrolment record to capture new enrolment at school
Capture additional information about the student and assign to a class
Read
Write
Write
Read/Write
Read/Write
Write
Write
Write
Write
Enrolment Request
Enrolment Form
Student Information Objects
Emergency Contact Details
Learner Record
Caregiver Details
Approvals / Declarations
Extra Curriculum
Transport
Suspension/Stood down history
Enrolment Record
Pastoral Information
Contact Details
Relationship
Notes
Medical Record
Interventions
Schools vary on when this takes place and who it takes place with. But in general there is a step for school's before enrolment occurs to meet with the new parents or previous school to gather more information about the student(s).
National Student Number
Identity
Early education history
Class / Group
Attendance Record
Achievement
Read/Write

13.2. Withdrawal

Process Steps

Students are withdrawn from a school when they leave the school (or within a certain timeframe of leaving the school). Withdrawing a student can be done at the end of each year (generally through bulk processes) and on an individual student basis e.g. if a student leaves the school during the year.

Students must be withdrawn from their old school in order for their new school to enrol them on their school roll.

When withdrawing a student, schools capture the last date of attendance and reason for leaving in their student management solution. This information is also captured in ENROL.

The process detailed in this flow concentrates on the end of year withdrawal process however most of the steps of the flow are relevant for those that leave during the year and for those who do not advise they are leaving the school but no longer show (and the previous school is advised when the student enrols at a new school.

Key Differences between Schools

Students leaving

- Withdrawal generally occurs at the end of the school year with a bulk number of students leaving; during the year when individual students leave (or small groups such as international students) and at time the school is not aware the student is leaving until a new school advises they want to enrol them.

Step: Updating ENROL

- Some schools use the function in their SMS to trigger the withdrawal in ENROL and some manually withdraw the student(s) in both their SMS and ENROL.

Exit form

- Some schools do not have an exit form, instead using email to advise staff the student is leaving. If there is anything outstanding for the student, the staff member contacts the dean to advise.

Sending new school information

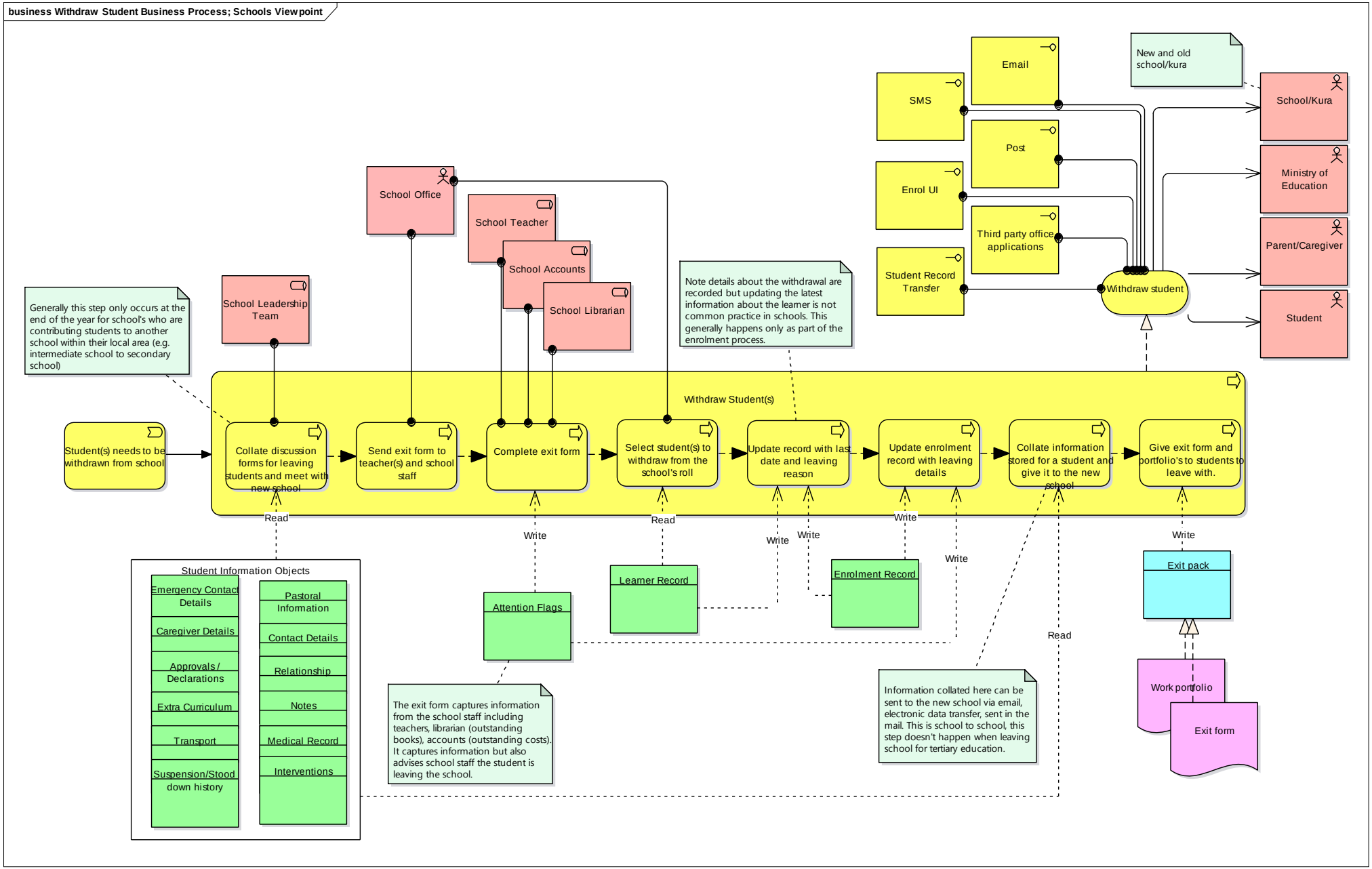
- There are cases where the old school does not know what new school the student will be attending. In these cases the old school relies on the new school contacting them requesting information. This does not happen in some cases (the new school does not request information)

Step: Collate information stored for a student and give to new school

- The information passed over to the new school varies between schools and also the method of exchanging this information. Some schools post hard copies of the information to the new school, others use email, face to face interviews, some use the Student Record Transfer (SRT) system and some use a customised electronic exchange function in their SMS.

Student Files

- Some schools have physical student files that are archived when the student leaves the school.


business Withdraw Student Business Process; Schools Viewpoint
Email
SMS
Post
Enrol UI
Third party office applications
Student Record Transfer
Withdraw student
New and old school/kura
School/Kura
Ministry of Education
Parent/Caregiver
Student
School Office
School Teacher
School Accounts
School Librarian
School Leadership Team
Generally this step only occurs at the end of the year for school's who are contributing students to another school within their local area (e.g. intermediate school to secondary school)
Note details about the withdrawal are recorded but updating the latest information about the learner is not common practice in schools. This generally happens only as part of the enrolment process.
Withdraw Student(s)
Student(s) needs to be withdrawn from school
Collate discussion forms for leaving students and meet with new school
Send exit form to teacher(s) and school staff
Complete exit form
Select student(s) to withdraw from the school's roll
Update record with last date and leaving reason
Update enrolment record with leaving details
Collate information stored for a student and give it to the new school
Give exit form and portfolio's to students to leave with.
Read
Write
Read
Write
Write
Write
Write
Write
Read
Student Information Objects
Emergency Contact Details
Caregiver Details
Approvals / Declarations
Extra Curriculum
Transport
Suspension/Stood down history
Pastoral Information
Contact Details
Relationship
Notes
Medical Record
Interventions
Attention Flags
Learner Record
Enrolment Record
Exit pack
Work portfolio
Exit form
The exit form captures information from the school staff including teachers, librarian (outstanding books), accounts (outstanding costs). It captures information but also advises school staff the student is leaving the school.
Information collated here can be sent to the new school via email, electronic data transfer, sent in the mail. This is school to school, this step doesn't happen when leaving school for tertiary education.

13.3. Recording Achievement Data

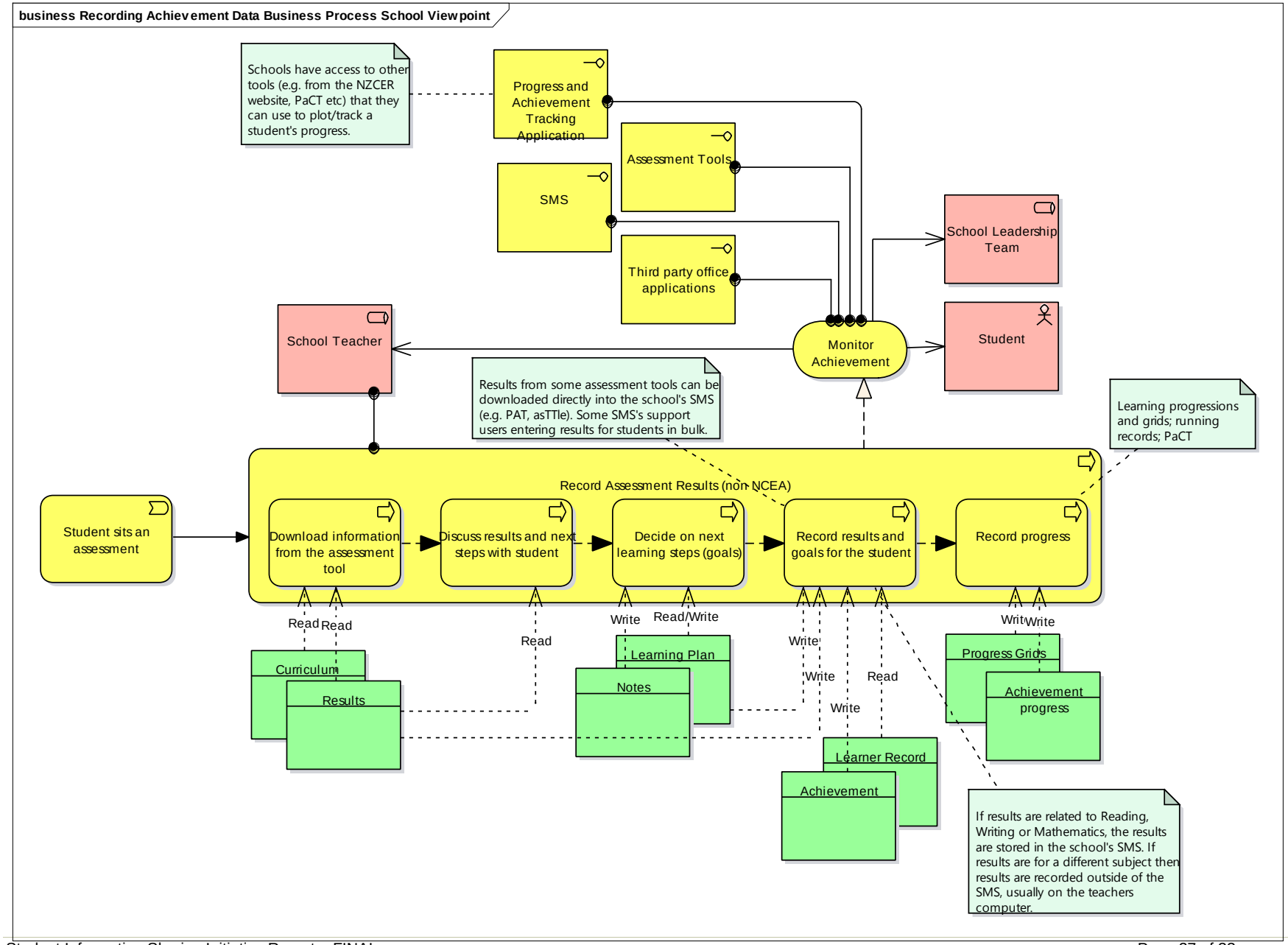
Process Steps

Students sit a variety of assessments through the year and each school uses a variety of tools to do the assessment (e.g. IKAN, JAM, PAT, asTTle, GLOSS). Some teachers use their own customised assessments (e.g. spelling tests, basic facts). Results are recorded against the student by the teacher to be used for:

- Informing the students (and teachers) learning plan
- Evidence for the teacher when making OTJ's
- Plotting (tracking) the student's progress
- Keeping a running record of the student's progress.

Key Differences between Schools

- SMS's used in primary/intermediate schools; only seem to support the capture of results for subjects reading, writing and mathematics. If the achievement data is for another subject, these are recorded outside of the SMS by the teacher (e.g. on a sheet on their computer).
- There are a number of assessment tools that all have different achievement scales, not all schools use the same assessment tools sometime resulting in achievement data from School A cannot be interpreted by School B (if they use different tools).
- Tools such as e-asTTle are commonly used because they provide historic information about the student's achievement and provides feedback using language which is understood by the students
- A lot of progress tracking for student's is completed by teachers outside of their school's SMS
- Teachers can keep a running record of student progress and achievement.
- Some schools find that assessment and achievement information passed on to the next school (e.g. secondary school) is generally not used; they have their own orientation day(s) where they assess all students and stream after.
- Some SMS’s do not support the ability to view a student’s progress year to year, generally the users have to export into third party software and crunch these numbers manually which is very time intensive.
- The process for recording results and achievement on students who are at NCEA Year levels, involves different steps to students not at NCEA Year Levels. One of the key differences is that the information is sent monthly from the school to NZQA. Progress and achievement is measured by not only NCEA levels but some schools provide the measurements directly to what entrance levels are at their local University or other internationally recognised certificates (e.g. Cambridge International Qualifications).


business Recording Achievement Data Business Process School Viewpoint
Schools have access to other tools (e.g. from the NZCER website, PaCT etc) that they can use to plot/track a student's progress.
Progress and Achievement Tracking Application
Assessment Tools
SMS
Third party office applications
School Leadership Team
School Teacher
Monitor Achievement
Student
Results from some assessment tools can be downloaded directly into the school's SMS (e.g. PAT, asTTle). Some SMS's support users entering results for students in bulk.
Learning progressions and grids; running records; PaCT
Record Assessment Results (non-NCEA)
Student sits an assessment
Download information from the assessment tool
Discuss results and next steps with student
Decide on next learning steps (goals)
Record results and goals for the student
Record progress
Read
Read
Read
Write
Read/Write
Write
Write
Read
Write
Write
Write
Curriculum
Results
Learning Plan
Notes
Learner Record
Achievement
Progress Grids
Achievement progress
If results are related to Reading, Writing or Mathematics, the results are stored in the school's SMS. If results are for a different subject then results are recorded outside of the SMS, usually on the teachers computer.

13.4. Reporting Progress and Achievement

Process Steps

Schools have a requirement to report twice a year to parents. Each school has a variety of output it produces for the students and parents to report on progress and achievement.

Reporting is a time consuming process for teachers, school leadership team and the principal.

It can take a teacher up to 2 hours per report they produce and with some processes requiring review by multiple staff, the process can take up to 5 weeks.

Key Differences between Schools

- Parents of primary / intermediate year students like comments not just numbers / stats
- Some SMS's support customised reporting and some don't. Schools will greatly vary their processes based on the SMS capability (e.g. some schools do not generate any reports out of their SMS, they instead use documents, and others do all their reporting out of the SMS).
- SMS's don't support the capture of information across all the aspects of the students' achievement/progress at the school (some only capture Reading, Writing and Mathematics). Key competencies and achievement in other areas (e.g. drama, music, technology) have to be reported separately outside of the SMS.
- Some parents of junior students do not access parent portals, instead preferring other methods, hard copy, email, Google drive, face to face. Portals seem to be used more by parents with senior aged children (e.g. Year 9+).
- Some schools don't report in the traditional way to parents/whanua e.g. Levin TPU involves whanua through events held at the school not formal reporting.

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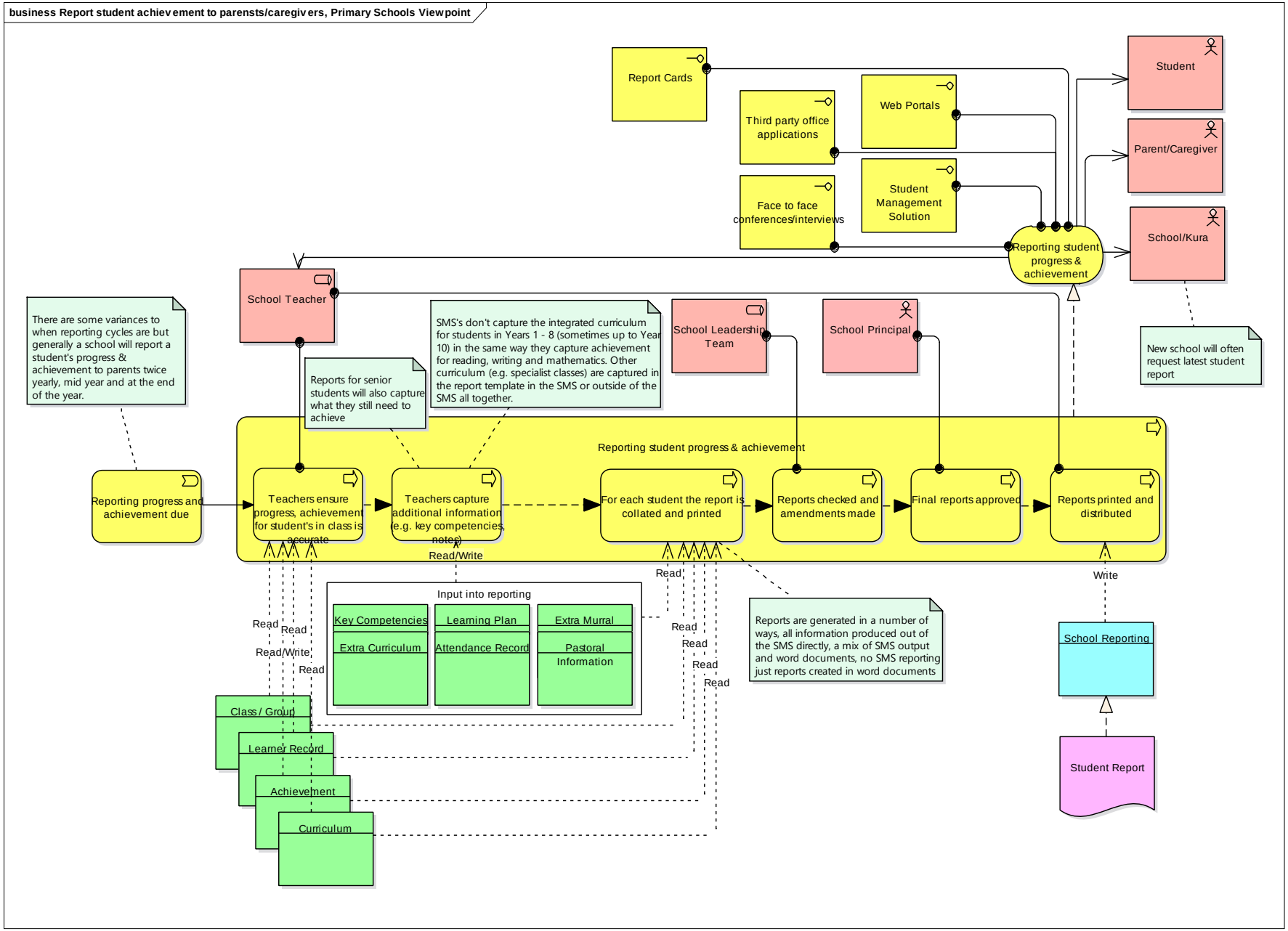

business Report student achievement to parensts/caregivers, Primary Schools Viewpoint
Report Cards
Third party office applications
Web Portals
Face to face conferences/interviews
Student Management Solution
Student
Parent/Caregiver
School/Kura
Reporting student progress & achievement
School Teacher
School Leadership Team
School Principal
There are some variances to when reporting cycles are but generally a school will report a student's progress & achievement to parents twice yearly, mid year and at the end of the year.
Reports for senior students will also capture what they still need to achieve
SMS's don't capture the integrated curriculum for students in Years 1 - 8 (sometimes up to Year 10) in the same way they capture achievement for reading, writing and mathematics. Other curriculum (e.g. specialist classes) are captured in the report template in the SMS or outside of the SMS all together.
New school will often request latest student report
Reporting student progress & achievement
Reporting progress and achievement due
Teachers ensure progress, achievement for student's in class is accurate
Teachers capture additional information (e.g. key competencies, notes)
For each student the report is collated and printed
Reports checked and amendments made
Final reports approved
Reports printed and distributed
Read/Write
Read
Write
Input into reporting
Key Competencies
Extra Curriculum
Learning Plan
Attendance Record
Extra Murral
Pastoral Information
Reports are generated in a number of ways, all information produced out of the SMS directly, a mix of SMS output and word documents, no SMS reporting just reports created in word documents
School Reporting
Student Report
Class / Group
Learner Record
Achievement
Curriculum

13.5. Attendance

Process Steps

There are a number of common steps to complete the attendance process across the schools.

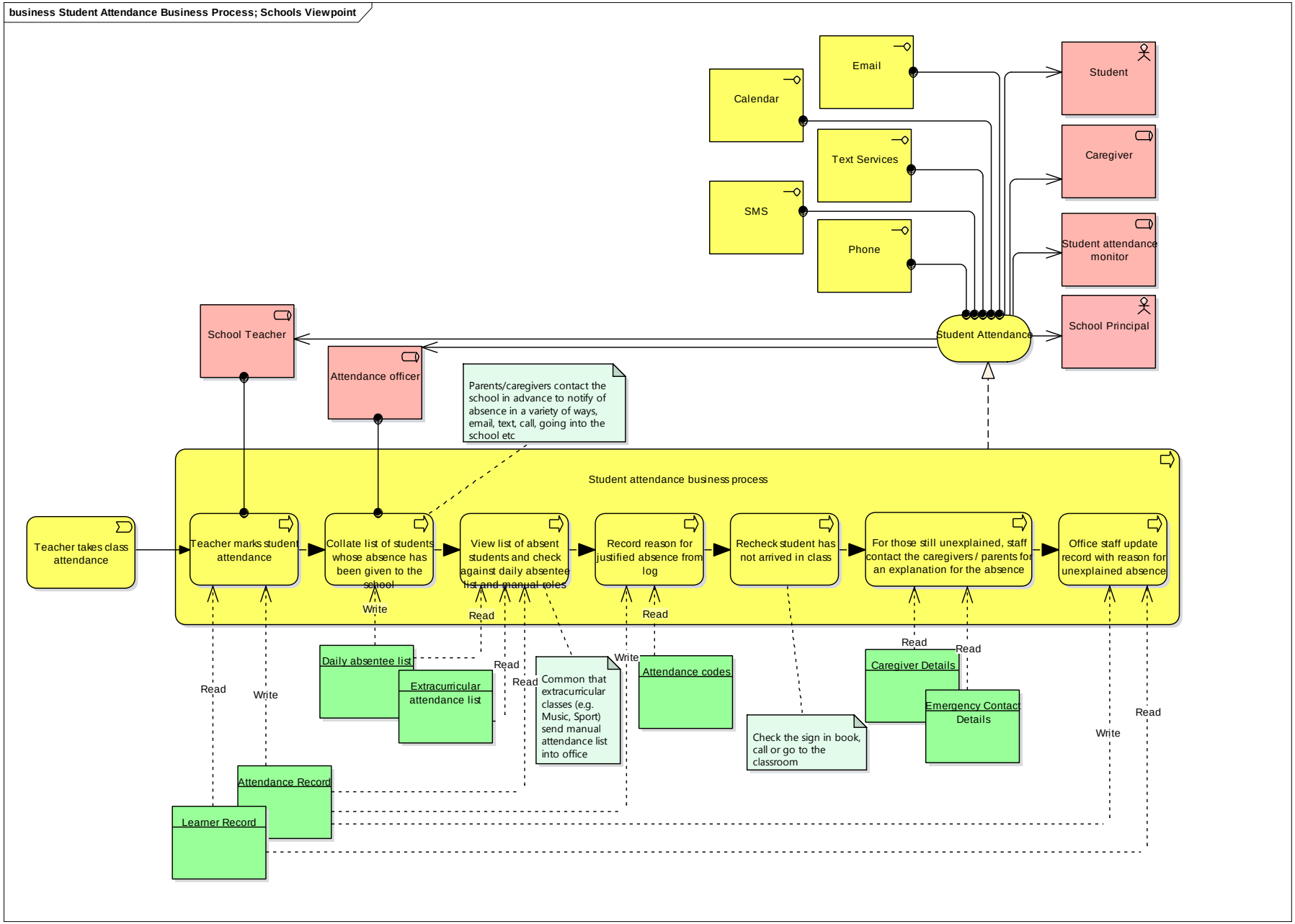
The attendance process starts in the classroom with teachers marking the attendance (commonly straight into the SMS and only recording if the student is there or not). Attendance in the classroom is completed by a set time at the school this enables the school office to follow up on any student unexpectedly away from school.

Tracking attendance for students is an important process and the output is used by a school in a number of other key processes:

- Ensure the well being and safety of their students (if they're not at school they are accounted for, having a record of students on campus in case of emergencies)
- Manage attendance issues before it becomes a problem
- Manage tardiness issues before it becomes a problem
- Use the record as a key input into measuring student achievement
- Monitor the engagement in education of the student and their caregivers.

Key Differences between Schools

- Students can attend classes outside of the school (e.g. TPU students attend classes at the college), there are additional sources of attendance for the primary school to check.
- Depending on who performs the attendance officer role, the attendance process can take a length of time to complete. If the school office is responsible for this role they can be constantly interrupted dealing with students, parents, phones etc.
- Not all schools get the teacher to enter attendance directly into SMS.
- Primary year schools take attendance twice a day where as secondary schools take attendance at the start of each class (note TPU take it every hour, not based on 'timetable').
- Schools collate the list of known absences for the day in a variety of ways (paper, outlook calendar, no set list).
- Different roles may also be involved in the attendance process not highlighted on the diagram (e.g. school nurse, boarding managers).


business Student Attendance Business Process; Schools Viewpoint
Email
Calendar
Text Services
SMS
Phone
Student
Caregiver
Student attendance monitor
School Principal
Student Attendance
School Teacher
Attendance officer
Parents/caregivers contact the school in advance to notify of absence in a variety of ways, email, text, call, going into the school etc
Student attendance business process
Teacher takes class attendance
Teacher marks student attendance
Collate list of students whose absence has been given to the school
View list of absent students and check against daily absentee list and manual roles
Record reason for justified absence from log
Recheck student has not arrived in class
For those still unexplained, staff contact the caregivers / parents for an explanation for the absence
Office staff update record with reason for unexplained absence
Write
Read
Read
Read
Write
Read
Read
Read
Read
Write
Read
Daily absentee list
Extracurricular attendance list
Common that extracurricular classes (e.g. Music, Sport) send manual attendance list into office
Attendance codes
Caregiver Details
Emergency Contact Details
Check the sign in book, call or go to the classroom
Attendance Record
Learner Record

13.6. Using Achievement Data to Inform the School

Process Steps

Schools and staff within the school, use achievement data captured for students to inform student learning plans, their teaching plans and school targets and vision. It is important for the information to be individually driven for each student and for each teacher as well as aggregating the data across other cross sections of the school.

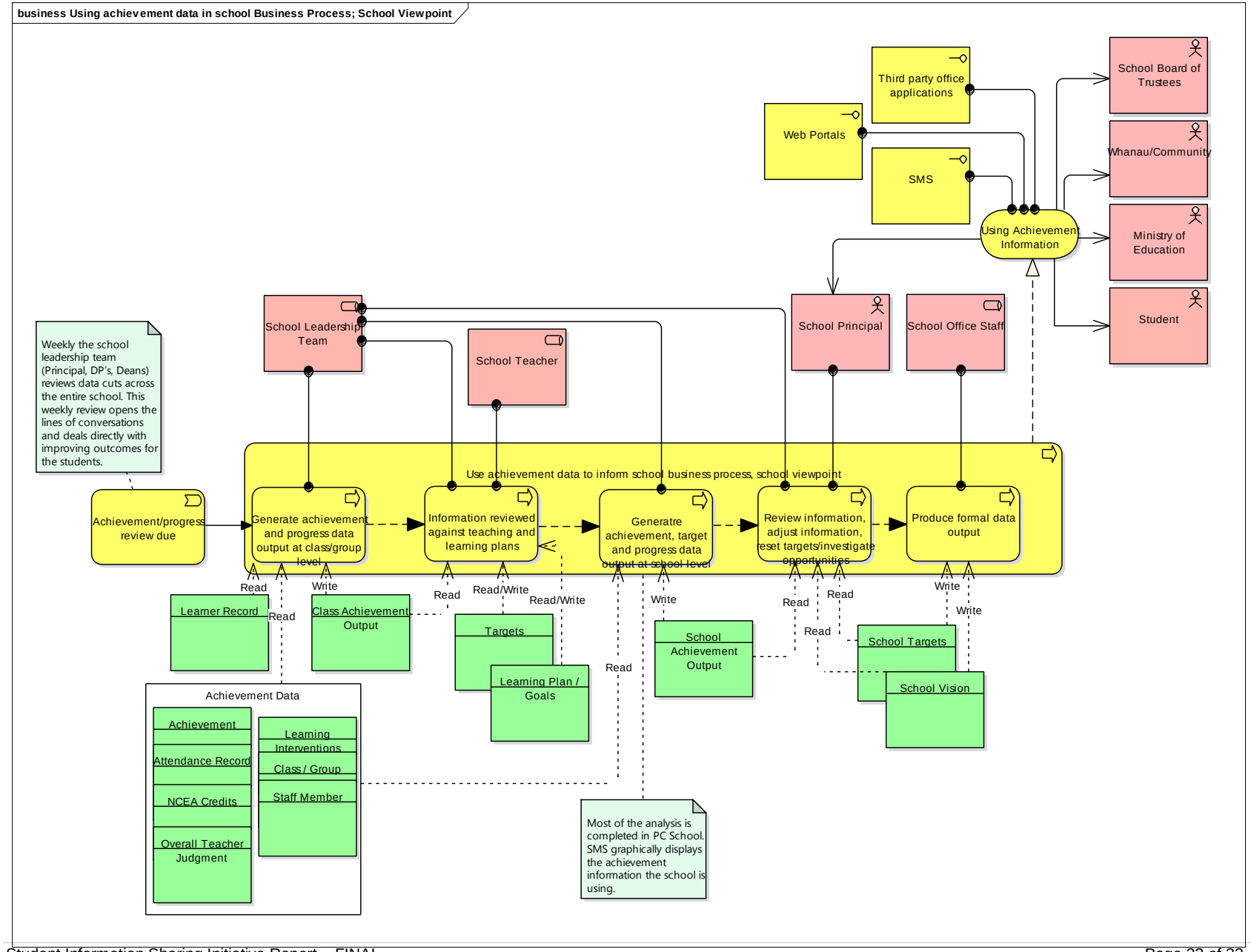
Some schools use the data more in depth to measure the outcome of direct changes to a school process and / or intervention.

Achievement data coupled with other key input data (such as attendance data) can be used to:

- Identify opportunities for new initiatives
- Self motivate staff and students
- Support robust discussions across the school
- Directly identify how to improve outcomes for student
- Free up resources by reducing complexity in a process
- Identify at risk [of not achieving] students and put in place a plan to improve outcomes
- Real time information enables conversations to address issues before they are problems
- Measure if interventions are affecting outcomes.

Key Differences between Schools

- Capability of knowing how to interpret and use the data to inform changes across the school.
- SMS capability impacts the amount of manual work required to get the output the school wants.
- some schools have to extract raw data from the SMS to excel files and manipulate line by line mapping each individual student to results to interventions to attendance.
- some schools have to extract the raw data into 3rd party applications to generate visual graphics that is used to communicate information to the community.
- Some SMS's meet all the reporting of the school, the information is up to date and always available to the school and staff.


business Using achievement data in school Business Process; School Viewpoint
Third party office applications
Web Portals
SMS
School Board of Trustees
Whanau/Community
Ministry of Education
Student
Using Achievement Information
School Leadership Team
School Teacher
School Principal
School Office Staff
Weekly the school leadership team (Principal, DP's, Deans) reviews data cuts across the entire school. This weekly review opens the lines of conversations and deals directly with improving outcomes for the students.
Use achievement data to inform school business process, school viewpoint
Achievement/progress review due
Generate achievement and progress data output at class/group level
Information reviewed against teaching and learning plans
Generatre achievement, target and progress data output at school level
Review information, adjust information, reset targets/investigate opportunities
Produce formal data output
Read
Write
Read/Write
Learner Record
Class Achievement Output
Targets
Learning Plan / Goals
School Achievement Output
School Targets
School Vision
Achievement Data
Achievement
Attendance Record
NCEA Credits
Overall Teacher Judgment
Learning Interventions
Class / Group
Staff Member
Most of the analysis is completed in PC School. SMS graphically displays the achievement information the school is using.