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## Business implementation

This section deals with implementation questions at the business rules level.

### What data is exchanged?

#### Description of the data relevant at a horizontal level (for school day-to-day business)

**StudentPersonal** records identify the students whose attendance is being tracked. Demographic attributes of the students may be required in order to provide reports correlating those attributes. The nationally required attributes are: geolocation, sector, sex, year level, indigenous status.

Attendance records track the attendance of students in school at various levels of granularity:

* **StudentPeriodAttendance**tracks  attendance at the level of individual periods for individual students. Period attendance is out of scope of this use case.
* **StudentAttendanceTimeList** tracks attendance at the level of parts of the day for individual students.
* **StudentDailyAttendance** tracks attendance at the level of the day for individual students (with fractions to quantify partial attendance).
* **StudentAttendanceSummary** tracks attendance of a student at the level of a half year or year for individual students

#### Description of the data relevant for vertical reporting (entity types)

Vertical reporting involves reporting of the attendance for a cohort of students, which can be established by aggregating across the foregoing objects:

* **SystemAttendanceSummary** (not a SIF object) tracks attendance at the level of a half year or year across a cohort of students, at the level of individual schools or a school system.

#### Data relationships

<diagram>

#### Authoritative source

The authoritative source for StudentPersonal is the school SMS.

The authoritative source for attendance unit records are the attendance tracking applications deployed in schools. This information is stored in the SMS, from where it is propagated on.

#### Stakeholders

* School: Attendance package vendor, school IT staff, home group teacher, school principal
* School system: school system IT staff, school system operations staff, school system business owners
* National:  reporting group

#### Downstream destinations

##### National

##### School system

##### School

#### Data recipients at unit level

* School systems (where present)
* Education researchers (deidentified)

#### Data recipients at aggregate level

* Australian government. The reports generated based on this data includes:
  + National Education Agreement (NEA) performance report(s)
  + National Report on Schooling in Australia
  + National Indigenous Reform Agreement (NIRA)
  + Report on Government Services (ROGS)
  + School-level attendance data on the My School website.

#### Data quality and timeliness

##### Timeliness for local use

Schools require daily attendance promptly, but not necessarily immediately. It has been acceptable in the past for attendance systems to deliver attendance results with a delay of a few days, in batch form. In particular, the justification for absences may be edited as more information is available in the days following the absence.

##### Timeliness for vertical reporting

The Australian government census of attendance data is annual, aggregated over Semester 1.

School systems that undertake censuses of attendance gather data at least annually.

##### Quality for local use

Attendance data is important for tracking both student welfare and student achievement, so schools require it to be of high quality, even if that is at the expense of timeliness.

##### Quality for vertical reporting

There is some tolerance of error in the national-level aggregate reports, as the attendance census is meant to be indicative, and applied at aggregate level.

#### Are there national and local definitions?

##### National

National definitions for attendance are provided in the *National Standards for Student Attendance Data Reporting*, published by ACARA. These have been introduced in 2014, to enable nationally comparable attendance rates, by imposing uniform calculation practices and data collection.

##### School system

##### School

### What are the business rules for this data exchange?

##### National

The national reporting requirements calculate attendance for full-time students only at state/territory level. (If a student attends multiple schools in a state, their attendance can be split pro rata between those schools.)

Attendance is calculated as the ratio of full-time equivalent of student-days to the total number of possible student days.

Schools are only included in attendance reporting if they fall within the NSSC definition of a school: their major activity is providing education, and students can enrol in the school for a minimum of four continuous weeks.

Part-day absences are to be reported as either 0.5 or to two decimal places, depending on individual school arrangements.

The National Standards define 19 categories of absence, whether each should be counted as absences for attendance reporting, and whether the absence should be included in the possible school day count.

##### School system

Students enrolled full time at state level but across multiple schools in the same sector are excluded from Qld government, all Catholic and independent schools.

School systems typically have absence categories that do not coincide with the national absence categories. All school systems need to provide mappings from their local categories to the national categories. Not all national absence categories are applicable locally.

Schools have the option of providing school systems with data in aggregated form, instead of unit records. Typically schools will opt to provide unit records, as they do not have the internal capability to perform the aggregations at the different levels required for systemic and national reporting.

VIC and WA report part-day absences consistently as 0.5.

School systems will vary as to whether they require schools to calculate the percentages of attendance for part-day attendance, or whether they will undertake those calculations centrally. If the former is the case, then an object like StudentDailyAttendance is adequate. If the latter is the case, then schools must provide all times in and out for a student during the day; in that case, an object like StudentAttendanceTimeList is required.

School systems will vary as to whether attendance is reported by schools only by exception (the school only submits records for days when the student has been absent), or completely (both presences and absences). NSW DEC for example requires the latter.

School systems will normalise attendance results received from different attendance packages, so that they can be aggregated and compared consistently.

##### School

In the absence of a school system, individual non-systemic schools have to comply with the requirements of national reporting on their own.

#### Localisation

<local rules for data exchange, self inserted by school systems authorities and others who have localised versions of this use case>

##### At local level

##### For vertical reporting

### How are data sources accessed?

<list how data sources area accessed>

#### At local level

#### For vertical reporting

### What are the privacy implications of this data exchange?

Consider the questions on [this page](file:///C:\display\SIFOG\Privacy+framework+questions) in establishing privacy measures. Many are specific to your local configuration, but some questions and answers will be common to all instances of this use case.

#### At local level

#### For vertical reporting

#### Privacy framework questions

##### Data collection

1. Specific to use case instance; recommend primary purpose only
2. StudentPersonal, StudentDailyAttendance, StudentAttendanceSummary, StudentAttendanceTimeList. Highly sensitive demographic or personal information within Student Personal is not required.
3. Specific to use case instance; recommend No

##### Data storage and access

1. Information should be stored in same State/Territory as it was sourced, given sensitivity
2. Some protection needed, given sensitivity; at minimum password access.
3. Specific to use case instance; if on cloud, tenancy access must apply.
4. Specific to use case instance; recommend Yes
5. Specific to use case instance; recommend SSL/TLS per SIF protocol
6. Homeroom teacher, principal, other teachers of the student on as-needs basis.
   1. Access should be logged.
   2. Specific to use case instance
   3. Specific to use case instance
   4. Working with children check recommended
   5. Analytics may be subcontracted; if they are, anonymisation recommended
   6. Specific to use case instance

##### Data and Metadata Retention

1. Specific to use case instance
2. Data should be retained for entire school year, to allow revision of annual report. Data may be deleted after end of school year; data must be deleted at termination of contract, or on request by school. Protocol for deletion request must be agreed to by school.
3. Copy of information MAY be provided by vendor to school; not strong requirement
4. On termination of contract, all data must be returned to school and deleted from vendor systems

##### Development and Change Management Process

1. Provider should follow standardised processes for code change management
2. Specific to use case instance
3. Provider should notify school of changes in information handling

##### Audits and Standards

1. Provider must allow security & privacy audit by school
2. Provider should have security operations externally audited
3. Provider should comply with external standard

##### Test and Development Environments

1. Live student data should not be used in non-production environments
2. Non-production environments need not be as secure as production

##### Data Breach, Incident Investigation and Response

1. At minimum, school informed immediately, will require escalation from principal
2. Vendor must have logging capability agreed with school, including making logs available to school and police

#### Key data elements privacy settings (Links)

##### Unit record level

At Unit Record level, the most sensitive attributes being transmitted are:

* StudentPersonal: Sex and Indigenous Status (Medium)
* StudentDailyAttendance: AttendanceCode, AttendanceNote (Extreme)

##### Aggregate level

At the aggregate level, the objects are of low sensitivity: no identifying information is passed along, and individual absence reasons are suppressed.

#### Privacy implications

##### At local level

Absence information is associated with fully identified students. The reasons why an individual student is absent may be embarrassing and need to be kept private, especially if described in detail. Thus data exchange between attendance applications and the school SMS must be tightly secured. The school should ensure that the data gathered by attendance applications cannot be compromised, or viewed by unauthorised parties outside the school, and should be stored accordingly.

Typically any aggregation of attendance data is done by the school authority and not the student. That means that the data being passed from the school to the school system is as sensitive as the information passed from the attendance applications to the school SMS, with the possible exception of attendance reason details. Highly sensitive information about students is exchanged between schools and school systems routinely; so no additional safeguards should need to be put in place for attendance data.

##### For vertical reporting

The data passed on for attendance reporting is aggregated and deidentified, and does not include any breakdown of reasons for absence. This data does not present serious privacy implications.

Any unit data passed to education researchers must be deidentified, and the demographic cohorts of students passed on must be large enough that individual student identity may be recovered.