

Attendance Baseline Profile

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1. Preface

This document details the Proposed Attendance Baseline Profile (ABP) for 2015. It specifically outlines behaviour associated with the 3.x, SIF RESTful Infrastructure.

1.1. Purpose

The SIF Specification contains objects for interaction between an Attendance vendor and a Student Information System. The Attendance Baseline is being prepared for attendance tracking vendors as a guide which would, once agreed, provide a set of SIF Objects and behaviours which will enable near 'plug and play' interoperability between a SIS at the School or Jurisdiction Level and a 3rd party Attendance vendor, which has developed its agent, up to the base line level.

1.2. Principles

The following principles underpin this document:

- Guidance, not regulation
- Drive simple interoperability, not just allow
- Consistency in expectation of behaviours between consumers and providers of information
- Adherence to SIF rules
- Working together for the benefit of all implementations but based on the experiences of real and specific implementations

This document and any object changes will be based on an alliance between vendor and Jurisdiction members of the SIF AU Data Standards Working Group.

1.3. General Guidance

The ABP is being built as a collaborative effort between key Attendance stakeholders, schools software vendors who need information from Attendance software and the SIF community including international vendors who have sought to find things that would be common to build a useful 'baseline'. The baseline is designed as a view of a data model and the associated behaviour which is listed in a range of scenarios. It is assumed that 'system of entry' or 'system of authority' of the data sources will be configured as the provider of these objects.

The ABP is designed to grow as the need arises. Growth of the Attendance Profile would not change any of the underlying baseline behaviours.

It is expected that the ABP will develop and continue to grow over time, however it will remain the base to be built upon providing the reference point for others looking to start out in SIF.

1.4. Context

The ABP has been set up to facilitate attendance reporting to school authorities. School authorities each have their own policies around how to report attendance, including guidelines around granularity of attendance times, attendance types, data collection periods, and exception handling. Moreover, the Australian Curriculum, Assessment and Reporting Authority (ACARA) has developed National Standards for Student Attendance Data Reporting http://www.acara.edu.au/reporting/national_standards_for_student_attendance_data_rep.html, as a set of nationally consistent parameters around collecting and reporting student attendance data.

This profile assumes at a minimum compliance with ACARA's national guidelines; implementations of the profile also need to ensure they comply with the attendance reporting policies specific to the school authority and/or other reports contributed to by the Student Information System.

To summarise the National Standards:

- The National Standards apply to all students in Years 1 to 10, in all government, Catholic and independent schools in Australia.
- The key performance measure of the National Standards are “number of actual full-time equivalent student-days attended by full-time students in Years 1 to 10 as a percentage of the total number of possible student-days attended over the period.”
- A day is not counted as a possible school day for a student if the school is closed for a religious, public or other holiday, or a natural disaster.
- A day is not counted as a possible school day for a student if the student has been expelled, or the school has been notified that the student has been detained at a centre by a government authority.
- A student is not considered absent if they are undergoing disciplinary action on school grounds (e.g. internal suspension); if they are on approved educational absence (including work experience and excursions), or if the student is at a tutorial centre.
- Attendance reporting is disaggregated by school geolocation and sector, and by student sex, year level, and indigenous status.
- Attendance does not need to be reported for part-time students (as defined at state level by sector); if a student is enrolled full time in a given state and sector, but is enrolled in multiple schools within the sector, their attendance is still reported across all schools.
- The reporting period is Semester 1 of each year.
- Part-day absences may be reported as either 0.5, or to two decimal places (e.g. 0.47).
- Ungraded students are reported as ungraded primary and ungraded secondary, according to typical age level for the state or territory.
- This means that reporting must track:
 - How many days a student could have attended a school (i.e. how many days he was enrolled in the school, and how many days in the school year count for attendance, allowing for holidays and natural disasters, expulsion, and notified detention by a government authority);

- How many of those days (or part-days) the student actually attended the school, allowing for exceptions such as internal suspension, approved educational absence, and attending a tutorial centre;
- The sex, year level, and indigeneity of each student;
- Attendance at least throughout Semester 1, as defined by the school authority;
- Part day attendance, at a level of granularity set by the school authority, but no less than 0.5.

1.5. Scope

This baseline profile only covers daily attendance. Period attendance is covered in a separate profile.

This baseline profile assumes that alerting student contacts about absences (e.g. by sending them an SMS when a student is found to be absent) is out of scope. Parent notification requires StudentContactPersonal and StudentContactRelationship to be added to the provisioning objects.

This baseline profile assumes that information about which days are not counted for attendance is known out of band by both parties, and does not need to be communicated through SIF. If the Attendance vendor does not have information ahead of time about which days are counted for attendance, and SIF will be used to communicate that information, then CalendarDate and CalendarSummary need to be added to the provisioning objects.

2. SIF Guidance

2.1. Objects Guidance

Provisioning objects, daily attendance:

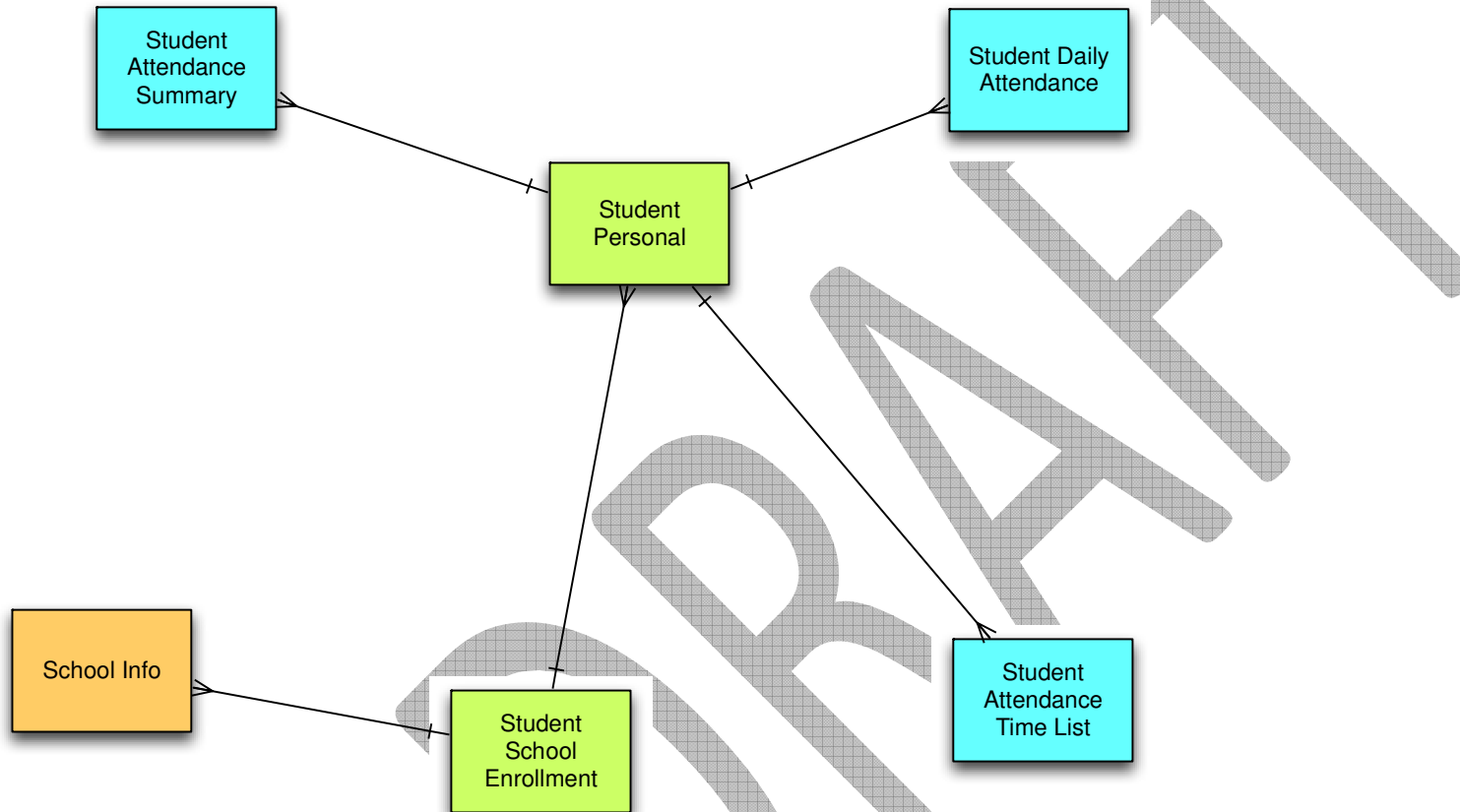
- StudentPersonal
- StudentSchoolEnrollment (retrieve all students in a school, for multi-school zones)
- SchoolInfo (retrieve all provisioning data for a school, for multi-school zones)

Return path objects, daily attendance:

- StudentDailyAttendance
- StudentAttendanceSummary
- StudentAttendanceTimeList

(see Scenarios section for details on the Elements included for each object.)

Entity Relationship Diagram – ABP, Daily Attendance



The ABP for daily attendance has simple Entity Relationships: the objects to be provisioned are the orange and green objects, the return path objects are in blue.

Missing Objects/Elements:

Where information required to support a particular business process is not included in the proposed Baseline, you should review other existing objects and elements in the SIF Implementation Specification (Australia) which contain the required information rather than attempting a custom extension to the baseline objects.

2.1.1. Request/Response and Events

For the identified Baseline elements, events are generated when they are updated. There are a number of ways to manage this, some systems keep a change log and have a process that checks the changes at intervals and then sends the messages when it detects a change. Another is to use database triggers at the time any change is made to the data.

To assist in identifying what fields are involved in an event:

- In an add event, all mapped fields associated with that event are assumed to be sent
- In a change event, only changed fields **have** to be sent, however all fields **may** be sent
- In a delete event, no fields are sent.
- With request/response all mandatory and strongly suggested elements should be included with the Response.

Base Data Objects	Request/Response
SchoolInfo	These objects are to be requested from the Student Information System at the point in time when the Attendance roll is ready to be created.
StudentPersonal	
StudentSchoolEnrollment	

Return Path Objects	ADD Event	CHANGE Event	DELETE Event
StudentDailyAttendance	SchoolInfo, StudentPersonal, objects already provisioned. If not request, create new record or update if already exists	Update record or create if not existing	Sent to rectify error. No scenario conditions
StudentAttendanceSummary	SchoolInfo, StudentPersonal objects already provisioned. If not request, create new record or update if already exists	Update record or create if not existing	Sent to rectify error. No scenario conditions
StudentAttendanceTimeList	SchoolInfo, StudentPersonal objects already provisioned. If not request, create new record or update if already exists	Update record or create if not existing	Sent to rectify error. No scenario conditions

2.1.2. Consumer's guidance

The provider should send all objects in order, and a subscriber should request precedent objects in order. For the Attendance Baseline Profile, these are:

- Daily Attendance
 - Provisioning: SchoolInfo, StudentPersonal, StudentSchoolEnrollement
 - Return Path: order is irrelevant

When first synchronising (done by sending an unbounded request for an object), requests should be made for these precedent objects first.

The dependencies for the objects are:

- StudentSchoolEnrollment requires StudentPersonal, SchoolInfo.

When events are subscribed to; in the unlikely case of objects being 'out of order' the preferred behaviour is;

- The Subscribers should request the missing object.
- If there is an 'Add' for an existing object then the subscriber should automatically assume it's a Change
- If there is a Change for a non-existing object subscriber should assume it's an Add.
- If the subscriber does not perform these tasks it must at least alert the operator to the error condition for manual intervention.

2.2. Request/Response Guidance

In Scenario A (initial provisioning of attendance roster), Request/Response is used instead of Event/Subscribe. The provisioning elements are consumed (pulled) by the attendance application at a time of the attendance application's choosing. However the return path attendance objects are provided (pushed) to the school authority, at a time of the attendance application's choosing. The generation of the attendance objects may require human intervention.

2.2.1. Queries (Request/Response)

No unbounded queries are expected. Students, Staff and all other base data will be filtered by School in all instances. All activity to populate attendance data will be restricted by school.

Only a limited subset of queries (bounded requests) will be supported as part of the baseline. The table below outlines these.

Object	Key/Mandatory	Restricted by School	Other Queries
SchoolInfo	Return single object based on RefId, where OperationalStatus = "O" (Open)*		Will also need to supply SchoolInfo by StateProvinceId in this profile - this will be the preferred query.
StudentSchoolEnrollment	Return single object based on RefId, where TimeFrame = "C" (Current)*	Return all objects where SchoolInfoRefId=x, and where TimeFrame = "C"	
StudentPersonal	Return single object based on RefId Return single object based on LocalId	Given SchoolInfo RefID x, return all objects whose refID is StudentSchoolEnrollment/[SchoolInfoRefId=x]/../StudentPersonalRefId and StudentSchoolEnrollment/TimeFrame = "C" (i.e. return all students currently enrolled in the given school)	Given StudentSchoolEnrollment RefID x, return all objects whose refId is StudentSchoolEnrollment[@RefId=x]/StudentPersonalRefId (i.e. return the student mentioned in a given enrolment record)

*See Currency below

This profile does not support queries on StudentAttendanceSummary: the relevant objects are posted by a client, rather than requested through a query. For that reason, this profile does not support restriction of StudentAttendanceSummary to a user-defined date range: the date range for StudentAttendanceSummary is expected to be preconfigured (e.g. from the start of the current School Year up to today).

2.2.2. Interpretation of queries

"Currency" query definition

Definition of students who should be included in a request for a 'current student' query

1. All confirmed (*) students for the current enrolled year.
2. If there is a Change for a non-existing object subscriber should assume it's an Add.

(*) confirmed - the definition of which would be determined by the SIS. E.g. paid enrolment fee, accepted a place, filled out enrolment details etc.

2.2.3. Service Paths

For implementations using SIF 3 infrastructure, service paths can optionally be implemented. The following service paths are recommended for the typical workflows around attendance. Query service paths depend on whether it is necessary to isolate data about a single school (e.g. from a school authority data hub), or whether all instances of the object may be retrieved (because the SIS only describes a single school, or because the client is trusted to do their own filtering)

2.2.3.1. Daily Attendance

Daily Attendance Queries, single school data source

/SchoolInfos	GET	SchoolInfo/OperationalStatus = "O"
/StudentPersonals	GET	StudentSchoolEnrollment/TimeFrame = "C", StudentPersonal@RefId = StudentSchoolEnrollment/StudentPersonalRefId
/StudentSchoolEnrollments	GET	StudentSchoolEnrollment/TimeFrame = "C"

Daily Attendance Queries, multiple school data source

/SchoolInfos/{SchoolInfoRefId}	GET	
/SchoolInfos/{SchoolInfoRefId}/StudentSchoolEnrollments	GET	StudentSchoolEnrollment/SchoolInfoRefId = { SchoolInfoRefId }, StudentSchoolEnrollment/TimeFrame = "C"
/SchoolInfos/{SchoolInfoRefId}/StudentPersonals	GET	StudentSchoolEnrollment/SchoolInfoRefId = { SchoolInfoRefId }, StudentSchoolEnrollment/TimeFrame = "C", StudentPersonal@RefId = StudentSchoolEnrollment/StudentPersonalRefId

Daily Attendance Return Path

/StudentDailyAttendances	POST	Multiple record payload
/StudentDailyAttendances/StudentDailyAttendance	POST	Single record payload
/StudentDailyAttendances/StudentDailyAttendance/{RefId}	PUT	Single record payload with given RefId (optional)
/StudentAttendanceSummaries	POST	Multiple record payload
/StudentAttendanceSummaries/StudentAttendanceSummary	POST	Single record payload

/StudentAttendanceSummaries/StudentAttendanceSummary/{RefId}	PUT	Single record payload with given RefId (optional)
/StudentAttendanceTimeLists	POST	Multiple record payload
/StudentAttendanceTimeLists/StudentAttendanceTimeList	POST	Single record payload
/StudentAttendanceTimeLists/StudentAttendanceTimeList/{RefId}	PUT	Single record payload with given RefId (optional)

2.3. Immutable Primary/Alternate keys

In the SIF Implementation Specification (Australia) the RefId is most commonly the Primary Key for an object and in most cases is likely to be the only 'root' attribute. This means Australia has less complex event handling which provides more flexibility and choice. However, in order to keep behaviours in line with expectation of proper key and object management the Immutable Alternate primary keys rule are built. This means particular keys on particular objects must not be changed even though the Specification permits it.

Where an element or attribute is indicated as a primary/alternate key, it cannot be changed throughout the object's lifetime (SIF AU has slightly different rules for the definition of primary keys to other SIF locales).

Other Locales include elements that are not part of their "primary" key as "root" attributes and even though they may not necessarily be "Mandatory" all "root" attributes must be sent with change events. Therefore AU will need to identify what elements cannot be changed – even though they do not form part of the "Primary" key.

In SIF AU, primary/alternate keys (AK) are being explicitly identified in the SIS Baseline Profile.

2.3.1. Key for Tables:

Attribute/Key Identifier	Element/Attribute	Char	Baseline Char	Description	Business Rules
Identifies attribute of element or object key	SIF (Australia) r1.x Implementation Specification Object/Element Name	As identified by the SIF Implementation (Australia) 1.x	Identifies Baseline requirements for SIF Implementation (Australia) 1.x optional elements M = Mandatory S = Strongly Suggested C = Conditional R = Repeatable O = Optional N = Not Used	Object/Element SIF Implementation (Australia) 1.x description	Identifies Baseline SIS business rules for object/element

3. Scenarios

The scenarios identified here are considered 'typical'. They do not necessarily map exactly to the specific needs of any given jurisdiction. Therefore it is expected that some specific implementations may wish to extend this document to exactly match their needs.

All said, the intent of this document is as a baseline such that there is minimal difference between implementations. This reduces the rework required by suppliers and instils consumer confidence in the ability of SIF to work out-of-the-box.

We consider here two major classes of scenario:

- School provisions Attendance Application with provisioning objects for daily attendance. Attendance Application generates daily attendance rosters for School.
- School updates provisioning objects for daily attendance. Attendance Application generates updates to daily attendance rosters for School.

3.1. Scenario Summary Matrix

The following is a list of the scenarios that comprise an Australian ABP.

	Scenario	AU Object element/behaviour	Message	Behaviour	SBP Rules
A	School authority provides attendance application with objects necessary to create daily attendance roster for the school SchoolInfo, StudentPersonal, StudentSchoolEnrollment, CalendarDate, CalendarSummary				
	Scenario	AU Object	Message	Behaviour	SBP Rules
a.1	Consume School Data	SchoolInfo	GET	Consume	StateProvinceId must be stated in the query. OperationalStatus = Open
a.2	Consume Enrollments	StudentSchoolEnrollment	GET	Consume	TimeFrame = Current
a.3	Consume Students	StudentPersonal	GET	Consume	
B	Attendance application provides daily attendance objects to the school authority, based on the objects it was provisioned with for the school StudentDailyAttendance, StudentAttendanceSummary				
	Scenario	AU Object	Message	Behaviour	SBP Rules
b.1	Provide Daily Attendance	StudentDailyAttendance	POST	Create	
b.2	Provide Daily	StudentAttendanceTimeList	POST	Create	

	Attendance Times				
b.3	Provide Attendance Summary	StudentAttendanceSummary	POST	Create	

3.A. School Authority Provisions 3rd Party Vendor for Daily Attendance

3.A.0.1. Scope

Many schools use Daily Attendance packages where student information is exported from the Student Administration System into the third party Attendance package. Once the attendance roster is ‘bedded down’, the information is exported manually from the Attendance package and imported back into the Student Administration System.

A sought-after business function to meet expectations of the Australian education community is to respond to an Attendance query with accurate information about the attendance of a particular student on a particular day or across a date range.

To enable this, sufficient information regarding the student population of the school, but also information about the school calendar (and which days are counted against attendance) needs to be able to be transferred to and from applications, to enable a response from the Schools Administration System.

It is expected that improved interoperability between systems will lead to more accurate and consistent exchange of Attendance data as well as time savings due to streamlined operations of data transmissions versus the existing method of manual exports and imports.

Interaction between third party Attendance packages and Schools Administration Systems is currently available at a School Level, and will increasingly also be provided at a Jurisdiction level.

3.A.0.2. Provisioning object dependencies

Because of object dependencies, objects should be provisioned in the following order:

- SchoolInfo, StudentPersonal
- StudentSchoolEnrollment

Conversely, we have seen that the query for all students in a school is restricted to those with a StudentSchoolEnrollment/TimeFrame flag of Current; and students are retrieved based on the enrolment relations between them and the school.

The objects should thus be requested in the following order:

- SchoolInfo
- (StudentSchoolEnrollment)
- StudentPersonal

Data Elements that need to be sent as a minimum – other 'O' optional elements in the full SIF Specification can be published, but as a minimum subscriber's typically need to consume the following:

3.A.1 Consume School Data

School Info

Object	Message	Behaviour	Choreography
SchoolInfo	GET	Consume	An Attendance vendor needs to issue a SchoolInfo request. The vendor should only request information about currently open schools and campuses.

Event	Description - Trigger	User Input	Agent Action - Consumer
Consume School Data	School is ready to create an attendance roster.	Jurisdiction staff trigger the interface	OperationalStatus and StateProvinceId must be known.

Attribute/Key	Element/Attribute	Char	Baseline Char	Description	Business Rules
Identifier					
@K	RefId	M	M	The GUID that identifies this school/campus	
	LocalId	M	M	The locally-assigned identifier for this school/campus	
	StateProvinceId	O	S	The state-assigned identifier for this school/campus	

	SchoolName	M	M	Name of school/campus.	
	SchoolType	O	S	An indication of the level of the educational institution	
	SchoolSector	M	M	Government or Non Government	
	Campus (and associated elements)	O	C	Campus identifier	Must be included if the school is defined as multi-campus. (Used to identify type of Campus)
	Campus/AdminStatus	M	M	Is this Campus the Administration Campus?	Must be included if the school is defined as multi-campus
	Campus/CampusType	O	O	Type of campus.	Supply if different from the School Type.
	Campus/ParentSchoolId	C	CS	Parent School Identifier	Parent School Id needs to be supplied if this Campus is not the Admin Campus. This number should be the state-assigned identifier for this school or the locally-assigned identifier for this school. Only available from 1.3 onwards.
	OperationalStatus	O	S	Operational condition of a school.	"O" = Open is a condition on a request.
	SchoolEmailList/Email	O	S		SchoolEmailList is an Optional List of Emails associated with a School.
	AddressList	O	S		AddressList is an Optional List of Addresses associated with a School. It is strongly suggested that at least one address is sent by the authoritative Jurisdiction.
	AddressList/Address	MR	MR		If an Address is supplied it is mandatory to send the Type and Role Attributes. e.g. <Address Type="0123" Role="012B">
	AddressList/Address/StateProvince	C	S	The state or province code eg NSW, Vic, ACT	Only supply if in Australia
	AddressList/Address/City	M	M	The city part of the address	

	AddressList/Address/PostalCode	M	M	The ZIP/Postal code	
	AddressList/Address/Street/StreetNumber	O	S	The address number assigned to the building	
	AddressList/Address/Street/StreetName	O	S	The name of the street	
	AddressList/Address/GridLocation/Longitude	O	O	Longitude of school location	
	AddressList/Address/GridLocation/Latitude	O	O	Latitude of school location	
	AddressList/Address/SchoolGeographicLocation	O	O	School Location from MCEETYA.	

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3.A.2 Consume School Enrollments

StudentSchoolEnrollment

Object	Message	Behaviour	Choreography
StudentSchoolEnrollment	GET	Consume	An Attendance vendor needs to issue a StudentSchoolEnrollment or StudentPersonal request. The vendor should only request information about current enrollments.

Event	Description - Trigger	User Input	Agent Action - Consumer
Consume School Enrollment Data	School is ready to create an attendance roster.	Jurisdiction staff trigger the interface	

Attribute/Key	Element/Attribute	Char	Baseline Char	Description	Business Rules
@K	RefId	M	M	The ID (GUID) that uniquely identifies a particular enrollment.	
AK	StudentPersonalRefId	M	M	The ID (GUID) of the student to whom this information is linked.	
AK	SchoolInfoRefId	M	M	The ID (GUID) of the school to which this enrollment applies.	
	MembershipType	M	M	The type of this enrollment as it relates to the school identified in SchoolInfoRefId	
AK	SchoolYear	M	M	School year for which this enrollment is applicable, expressed as the four-digit year in which the school year ends (e.g. 2007). StudentSchoolEnrollment instances must not span multiple school years.	Must be the current SchoolYear
	TimeFrame	M	M	The timeframe of the enrollment based on the SIF_Date in the SIF_Header of the message. For events, it is determined as of the date the event is generated. For requests and responses, it is calculated	= 'C' for current

				based on the date of the request.	
	YearLevel	O	M	Expected Year level of student when their enrolment becomes 'Current'.	
	FTE	O	S	Full-time equivalent numeric value of the student's course load during this enrollment, expressed in decimal form, where 1.00 represents a full-time enrollment	
	EntryDate	M	M	The date from when this enrollment will be valid.	
	ExitDate	C	C	The last school calendar day of this enrollment. If the student has exited the school or the enrollment has a RecordClosureReason, ExitDate must have a value.	RecordClosureReason has not been requested by TT vendors
	StudentSubjectChoiceList	O	S	List of Student Subject Choices where available	If collected by jurisdiction should be supplied. If this is done in the 3rd party product – this is not required.
	StudentSubjectChoiceList/StudentSubjectChoice	MR		Subjects Students choose	
	StudentSubjectChoiceList/StudentSubjectChoice/PreferenceNumber	O		Subject Priority	
	StudentSubjectChoiceList/StudentSubjectChoice/SubjectLocalId	M		Local Subject Id	
	StudentSubjectChoiceList/StudentSubjectChoice/StudyDescription	O		Description about Study Mode	
	StudentSubjectChoiceList/StudentSubjectChoice/OtherSchoolLocalId	O		LocalId of a school where the student studies this subject if not at the home school	
	Homeroom	O		Homeroom for this enrollment	

3.A.3 Consume Students

StudentPersonal

Object	Message	Behaviour	Choreography
StudentPersonal	GET	Consume	An Attendance vendor needs to issue a StudentPersonal request. The vendor should only request information about currently enrolled students.

Event	Description - Trigger	User Input	Agent Action - Consumer
Consume Student Data	School is ready to create an attendance roster.	Jurisdiction staff trigger the interface	

Attribute /Key	Element/Attribute	Char	Baseline Char	Description	Business Rules
Identifier					
@K	RefId	M	M	The GUID of the student.	
	LocalId	M	M	The locally-assigned identifier for this student.	
	StateProvinceId	O	S	The state-assigned identifier for this student.	Provide if this is available.
	OtherIdList	O	O	Lists all "other" identifiers associated with the student.	
	OtherIdList/OtherId	OR	O	Lists an "other" identifier associated with the student.	
	OtherIdList/OtherId@Type	M	M	Code that defines the type of this other ID.	
	PersonInfo/Name/FamilyName	C	M	Family name. That part of the person's name which is used to describe family, clan, tribal group, or marital association.	
	PersonInfo/Name/GivenName	C	M	Given name of the person.	
	PersonInfo/Name/MiddleName	C	S	All other given or middle names,	

				each separated with a single space character.	
	PersonInfo/Name/PreferredGivenName	O	S	The given name preferred most by the person (as written).	If you don't store preferred name then provide GivenName
	MostRecent/YearLevel	O	M	The current or most recent grade level of the student in the district.	National Standards for reporting on attendance includes attendance against year level.
	PersonInfo/EmailList	O	S	The person's e-mail address(es).	
	PersonInfo/EmailList/Email	O	S	The Primary e-mail address associated with an individual or organization. (as per business rule)	If this attribute value is captured and available within the SIS it is suggested that it is published wherever possible. It is recognised that not all SIS make this attribute mandatory, nor do school processes enforce the capture.
@	PersonInfo/EmailList/Email/Type	M	M	Type of email address.	= '01' Email Address provided must be the Primary Email address.
	PersonInfo/Demographics/Sex	O	M	'Sex' is the distinction 'male' and 'female', as reported by the person	National Standards for reporting on attendance includes attendance against sex.
	PersonInfo/Demographics/IndigenousStatus	O	M	Whether or not the person identifies themselves as being of Aboriginal and/or Torres Strait Islander descent	National Standards for reporting on attendance includes attendance against indigeneity.

3.B. Create Attendance Scenario: Return daily Attendance Roster

Agents may provide any of the StudentDailyAttendance, StudentAttendanceSummary, or StudentAttendanceTimeList objects, depending on the business requirements around the request. The StudentDailyAttendance object provides information around reasons for absences, and a single time in and out for each day for a student. The StudentAttendanceTimeList object allows multiple times in and out to be recorded per day per student, each with its own reason. The StudentAttendanceSummary provides an aggregate report for a student, counting the number of days in a given time period that the student is absent, and the days for which absence is excused or unexcused, or tardy.

For the National Standards, agents are expected to track part-day attendance, to a granularity of at least 0.5, as defined by the school authority. This is done using StudentDailyAttendance/AbsenceValue where StudentDailyAttendance/DayValue = Partial. The attendance day counts in StudentAttendanceSummary, and the partial attendance day counts in StudentAttendanceTimeList/AttendanceTimes/AttendanceTime/DurationValue are all xs:decimal.

Agents are expected to track instances where the student was away from class but which do not count as failures to attend (e.g. internal suspension, approved educational absence, attending a tutorial centre). The student is considered present during those days, and these will be included in StudentAttendanceSummary/DaysAttended.

Agents are expected to track instances where the student could not have potentially attended school, and which should not count as possible school days. These include school closure days, but also expulsion and notified detention by a government authority. Attendance is not counted for the student during those days, and these are excluded from both StudentAttendanceSummary/DaysAttended and StudentAttendanceSummary/DaysInMembership.

Event	Description/Trigger	User Input	Agent Action Publisher
StudentDailyAttendance	New roster ready to be published.	Request for attendance information on student on a given date.	Agent responds to GET request with a new StudentDailyAttendance object
StudentAttendanceSummary	New roster ready to be published.	Request for attendance information on student on a (preconfigured) range of dates (e.g. school year to date). Queries to provide a StudentAttendanceSummary over a date range nominated by the user are not supported in this profile.	Agent responds to GET request with a new StudentAttendanceSummary object
StudentAttendanceTimeList	New roster ready to be published.	Request for attendance information on student on a given date.	Agent responds to GET request with a new StudentAttendanceTimeList object

Object	Message	Behaviour	Choreography
StudentDailyAttendance	POST	Create	Object provided by attendance application
StudentAttendanceTimeList	POST	Create	Object provided by attendance application
StudentAttendanceSummary	POST	Create	Object provided by attendance application

3.B.1 Provide Daily Attendance

Object	Message	Behaviour	Choreography
StudentDailyAttendance	POST	Provide	Agent provides new StudentDailyAttendance object

Event	Description - Trigger	User Input	Agent Action
Provide Daily Attendance	Availability of attendance of student in a given day.	Attendance application triggers the interface	

3.B.1 StudentDailyAttendance

Attribute / Key Identifier	Element / Attribute	Char	Baseline Char	Description	Business Rules
@K	RefId	M	M	The ID (GUID) assigned to uniquely identify this attendance record.	
	StudentPersonalRefId	M	M	The ID (GUID) of the student for whom this attendance information is being reported.	
	SchoolInfoRefId	M	M	The ID (GUID) of the school for which this attendance information is being	Since zone may be shared with multiple zones, school should be identified

				reported.	
	Date	M	M	The calendar date to which this attendance information relates.	At least one record is expected to be provided for each enrolled student in a school, for each day of the school calendar in which the student is enrolled. Several StudentDailyAttendance objects can be sent about the same student on the same day, if those objects have partial coverage of the day (as indicated in DayValue = Partial). If The object provider should ensure that those objects combine to provide attendance information across the whole day. If multiple absences about the same student on the same day will be subsequently updated, and particularly if they may be collapsed or expanded, they become very difficult to manage through the StudentDailyAttendance object. In such circumstances, the StudentAttendanceTimeList is preferable.
	SchoolYear	M	M	School year for which this enrollment is applicable, expressed as the four-digit year in which the school year ends (e.g. 2007).	
	DayValue	O	M	Value of a day this instance, represents.	
	AttendanceCode	M	M	Locally defined code for attendance.	
	AttendanceStatus	M	M	Approved or Unapproved status of this attendance code.	
	TimeIn	C	M	The time the student entered or returned to school. Must be provided if 'Partial' chosen for DayValue.	
	TimeOut	C	M	The time the student left school. Must be provided if 'Partial' chosen for DayValue..	Several StudentDailyAttendance objects can be sent about the same student on the same day, if those objects have partial coverage of the day (as indicated in DayValue = Partial). The object provider should ensure that those objects do not overlap in their time spans (TimeIn to TimeOut), as that would lead to ambiguity over which record to refer to for a given time of day.
	AbsenceValue	C	C	Must be provided if the DayValue is "Partial" or "Other". The amount of absence represented by AttendanceCode, up to three decimal	The National Standards require granularity of either 0.5, or up to two decimal places.

				places.	
	AttendanceNote	0	0	Note related to this particular attendance.	

3.B.2 Provide StudentAttendanceTimeList

Object	Message	Behaviour	Choreography
StudentAttendanceTimeList	POST	Provide	Agent provides new StudentAttendanceTimeList object

Event	Description - Trigger	User Input	Agent Action
Provide Student Attendance times	Availability of attendance of student in a given day.	Attendance application triggers the interface	

3.B.2 StudentAttendanceTimeList

Attribute / Key Identifier	Element / Attribute	Char	Baseline Char	Description	Business Rules
	StudentAttendanceTimeList			This object provides more detail about the attendance spans for a single student during the day: it provides more detailed information than the single TimeIn and TimeOut elements in StudentDailyAttendance.	
@ 🔑	RefId	M	M	The ID (GUID) assigned to uniquely identify this attendance record.	
	StudentPersonalRefId	M	M	The ID (GUID) of the student for whom this attendance information is being reported.	
	SchoolInfoRefId	M	M	The ID (GUID) of the school for which this attendance information is being reported.	Since zone may be shared with multiple zones, school should be identified

	Date	M	M	The calendar date to which this attendance information relates.	A single record is expected to be provided for each enrolled student in a school, for each day of the school calendar in which the student is enrolled.
	SchoolYear	m	M	School year for which this enrollment is applicable, expressed as the four-digit year in which the school year ends (e.g. 2007).	
	AttendanceTimes	M	M	Breakdown of times that the student entered or returned to school.	
	AttendanceTimes/AttendanceTime	MR	MR		
	AttendanceTimes/AttendanceTime/AttendanceCode	M	M	Locally defined code for attendance.	
	AttendanceTimes/AttendanceTime/AttendanceStatus	M	M	Approved or Unapproved status of this attendance code.	
	AttendanceTimes/AttendanceTime/StartTime	M	M	The start of this particular time span.	The object provider should ensure that the AttendanceTime elements do not overlap in their time spans (StartTime to EndTime), as that would lead to ambiguity over which entry to refer to for a given time of day.
	AttendanceTimes/AttendanceTime/EndTime	M	M	The end of this particular time span.	The object provider should ensure that the AttendanceTime elements do not overlap in their time spans (StartTime to EndTime), as that would lead to ambiguity over which entry to refer to for a given time of day.
	AttendanceTimes/AttendanceTime/DurationValue	O	O	The amount of absence represented by AttendanceCode, up to three decimal places.	The National Standards require granularity of either 0.5, or up to two decimal places.
	AttendanceTimes/AttendanceTime/AttendanceNote	O	O	Note related to this particular time span.	
	SIF_Metadata	O	O		

SIF_ExtendedElements	O	O	
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3.B.3 Provide Attendance Summary

Object	Message	Behaviour	Choreography
StudentAttendanceSummary	POST	Provide	Agent provides new StudentAttendanceSummary object

Event	Description - Trigger	User Input	Agent Action
Provide Attendance Summary	Availability of attendance data about of student across a prenegotiated period.	Attendance application triggers the interface	

3.B.3 StudentAttendanceSummary

Attribute / Key Identifier	Element / Attribute	Char	Baseline Char	Description	Business Rules
@K	StudentPersonalRefId	M	M	The ID (GUID) of the student for whom this attendance information is being reported.	
@K	SchoolInfoRefId	M	M	The ID (GUID) of the school for which this attendance information is being reported.	Since zone may be shared with multiple zones, school should be identified
@K	SchoolYear	M	M	School year for which the information is applicable.	
@K	StartDate	M	M	Starting date of this attendance reporting period.	Preconfigured by the object provider
@K	EndDate	M	M	Ending date of this attendance reporting period.	Preconfigured by the object provider
	StudentAttendanceSummaryRefId	O	M	An optional ID (GUID) for this summary of attendance information being reported on. This GUID would be used to form a REST URL.	
	StartDay	O		Number of the school day represented in StartDate.	

	EndDay	O		Number of the school day represented in EndDate.	
	FTE	O		Full time equivalent numeric value of the student's course load during this attendance period, expressed in decimal form, where 1.00 represents a full time enrollment.	
	DaysAttended	M	M	The number of days the student attended school when school was in session between the StartDate and EndDate, inclusive.	
	ExcusedAbsences	M	M	The number of days the student was absent from school with a valid excuse when school was in session between the StartDate and EndDate, inclusive.	
	UnexcusedAbsences	M	M	The number of days the student was absent from school without a valid excuse when school was in session between the StartDate and EndDate, inclusive.	
	DaysTardy	O		The number of days the student was tardy when school was in session between the StartDate and EndDate, inclusive.	
	DaysInMembership	M	M	The number of days the student was present plus the number of days the student was absent when school was in session during the period between the StartDate and EndDate, inclusive.	