**SIF Data Model Extension Proposal Template**

*This template should be used by individuals or Project Teams to submit (and later track the progress of) proposed extensions to the SIF Data Model. These extensions can either be new data objects or revisions to the schema defining elements and / or attributes in existing ones.*

*It is designed to be a “living document” and contains two “status tracking” sections which should be maintained and updated as the change approval process for this extension evolves.*

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| --- |
| Extension Proposal Version Control |
| Version | Date: | Author/Organization: | Comments |
| 0.1 | 8th April, 2013 | Linda Marshall | Initial Proposal for SectionInfo and StudentSectionEnrollment to support NSW Pilot |
| 0.2 | 17th April, 2013 | NSIP Team | Updated from feedback from KamHay Fung, NSW |

# **1 Identification**

|  |  |
| --- | --- |
| Proposed Extension Name | SectionInfo and StudentSectionEnrollment |
| Submitted by (Project Team or Individual) | NSIP for NSW |
| Date of initial submittal | April 8th, 2013 |
|  |  |
| What is the base SIF Data Model release? | 1.3 |
| What is the base SIF Infrastructure release? | 2.6 or 3.0 |
|  |  |
| What existing SIF object(s) if any will be affected?  | None |
| What is the name of any new object(s)? | SectionInfo |
|  | StudentSectionEnrollment |
| DM Extension ID (to be assigned when submitted) |  |

# **2. Proposal**

## 2.1 Rationale for Extension

In NSW TAFE, an enrolment is tied to a subject rather than a school. A TAFE student can take a course consisting of a few subjects, the classes for each of which can be taken at different TAFE locations.  The SIF data model, however, ties an enrolment to a single school but in NSW we need to be able to expand on this relationship.

## 2.2 Business Case

*Provide a specific example of an example where the additional information defined in this proposal will be used in one or more educational processes*

*It should focus exclusively on the business problem to be solved and avoid proposing solutions.*

By adding in SectionInfo we create the container of a piece of curriculum that can be linked to a course. In SIF 1.x, a Course is still tied to a school.

The StudentSectionEnrollment Object is proposed so that a student can be enrolled in a piece of curriculum.

The SchoolCourseInfo Object is an instance of a course which will contain information that will be able to be used, together with SectionInfo and StudentSectionEnrollment to keep track of a student’s progress in a Course.

StudentSectionEnrollment together with the SectionInfo Objects will be able to be used to provision a Learning Management System with information about student’s participation in course material.

NOTE: These objects originated from US 2.6 but do not contain the scheduling information held within the US Specification. These objects are not intended to replace or confuse the provision of timetabling information and TeachingGroup which are the scheduling and class objects used in the 1.x Australian Specification.

# **3. Use Cases**

*The proposal champion or the assigned project team must provide one or more high-level use cases illustrating the interactions between “actors” (typically applications) that become possible if this proposal is adopted and successfully implemented. Use one copy of the form below for each.*

**Use Case Title: TOR Data is added to the SIS**

|  |  |
| --- | --- |
| **Type (Mandatory or Optional)** | Optional |
| **SIF Version** | 1.3 |
| **Summary Description** |  |
| **Actors:** | SISLMS |
| **Preconditions** | Student is in the SIS as a StudentPersonal object.SchoolInfo has previously been published in the zone.Courses are created in the school and exist as SchoolCourseInfo.Sections are created and exist as SectionInfo Objects. |
| **Main Sequence of Events / Action Steps** | 1. Student is enrolled in a Section and StudentSectionEnrollment is published.
 |
| **Alternative Sequence of Events / Action Steps** |  |
| **Post Conditions** | Student is enrolled in a course or section of a course. |
| **SIF Mandatory Objects** | SchoolInfo, SchoolCourseInfo, SectionInfo, StudentPersonal, StudentSectionEnrollment  |
| **SIF Optional Objects** |  |
| **Open Issues** |  |

**Status Tracker Phase 2: Execution of Proposed Changes**

*At this point the initial Data Model extension proposal has been accepted by the Tech Board and is either in the object pipeline, or being fast-tracked. The following sections have to be completed and (where indicated) reviewed and approved before this proposal can be reflected in the SIF specification.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Template Section** | **Draft Completed****(Owner / Date)** | **Reviewed (R) or Accepted (A)****(Owner / Date)** | **Comments** |
| Dependencies  |   |   |  |
| Object Definition Table |   |   |  |
| Migration Plan |   |   |  |
| Sample XML |  |  |  |

# **4. Impact Assessment**

*This section is the first to consider the actual implementation which will address the use cases previously identified. It requires assessing the impacts to both the existing objects and infrastructure, and to previously deployed applications. It would normally be produced by the Project Team (new or existing) assigned to this data model extension by the Tech Board at the time this proposal was approved.*

*In cases where a legacy object (one with no owning Project Team), is being changed, the task of assessing impact may be assigned to a Staff member to drive its completion.*

*The following two subsections must be completed.*

## 4.1 External Object Dependencies and Relation Map

*Identify any dependencies on existing XML entities in other SIF objects*

*New Objects – StudentSectionEnrollment & SectionInfo*



## 4.2 Infrastructure / International Dependencies and Relation Map

*Identify any dependencies on infrastructure technologies and / or deliverables from the International Technical Board (ITB) which are planned for a future release.*

*This could include requiring or relying on specific functionality from one or more of the following:*

* *Transport (ex: SOAP conventions)*
* *SIS Functional Profiles*
* *Identity Management Profiles*
* *Global Data Model Metadata*
* *Central Administration or Smart Zone*
* *Zone Services (ex: Assessment)*

*N/A – No infrastructure impact*

# **5 Detailed Design**

*Place the detailed element by element, attribute by attribute breakdown of the Data Model Extension here. This work is normally done by members of the assigned Project Team.*

*The possible values of the “Char” column include*

*One of the following characteristics:*

* ***M – Mandatory****. Item must appear in every Add Event and Response message for the object*
* ***Q – ReQuired****. Item must either appear in an Add Event or eventually be included in a Change Event.*
* ***S – Supported****. Item may or may not appear in any message relating to the object. However if its value is supplied / available, it must be included by the sender in Event and Response messages.*
* ***C******– Conditional.*** *Item is required if the included conditions are satisfied*
* ***O – Optional****. Item may or may not appear in any message relating to the object. It need not be supported by the sender*

Plus one or more of the following characteristics if applicable:

* ***I –******Immutable.*** *Item value cannot be changed once supplied.*
* ***U –******Unique.*** *Item value is unique from all other objects containing that item (ex: RefId)*
* ***N –******Non-Queryable****. Item may not be used in a Request message. This would be true for elements which might be calculated by the object provider (ex: aggregates)*

Plus the following characteristic if applicable:

* ***R ­– Repeatable.*** *Item may appear more than one time.*

*The “type” of each item is either an XML type (ex: integer) or a named SIF Global Type.*

 *XML Facets can help to further define the value of an item. These can include length, range, and per-type value restrictions. They should be specified if known.*

*Fill out a separate copy of the following table for each affected new or existing SIF object.*

*Events are not reported. This is only for Requests. Will need Other objects to work (see dependency table)*

**Object Name: SectionInfo**

|  | **Element/@Attribute** | **Char** | **Description** | **Type** |
| --- | --- | --- | --- | --- |
|  | **SectionInfo** |  | This object provides information about the section— |  |
| **@key** | RefId | M | The Id (GUID) that uniquely identifies this section entity. | [RefIdType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#RefIdType) |
|  | SchoolCourseInfoRefId | M | The Id (GUID) that identifies the course being taught in this section. | [IdRefType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#IdRefType) |
|  | LocalId | M | The locally-assigned identifier for this course section. | [LocalId](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#LocalId) |
|  | Description | O | Description of the course section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolYear | C | School year for which the information is applicable, expressed as the four-digit year in which the school year ends (e.g. 2013 for the 2013 school year). Either SchoolYear or TermInfoRefId must be provided.  | [SchoolYear](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SchoolYear) |
|  | TermInfoRefId | C | The Id (GUID) of the term to which this schedule information relates. Either TermInfoRefId or SchoolYear must be provided. | [IdRefType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#IdRefType) |
|  | MediumOfInstruction | O | Medium through which the student receives instructional communication from the teacher. |  |
|  | MediumOfInstruction/Code | M | Code representing the medium of instruction. | [AUCodeSetsMediumOfInstructionType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CodeSets.html#AUCodeSetsMediumOfInstructionType) |
|  | MediumOfInstruction/OtherCodeList | O |  | [OtherCodeList](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#OtherCodeList) |
|  | LanguageOfInstruction | O | Language in which the section is taught. |  |
|  | LanguageOfInstruction/Code | M | Code representing the language of instruction. | [AUCodeSetsAustralianStandardClassificationOfLanguagesASCLType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CodeSets.html#AUCodeSetsAustralianStandardClassificationOfLanguagesASCLType) |
|  | LanguageOfInstruction/OtherCodeList | O |  | [OtherCodeList](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#OtherCodeList) |
|  | LocationOfInstruction | O | Description of the location in which the section is taught. |  |
|  | LocationOfInstruction/Code | M | Code representing the location of instruction. | [AUCodeSetsReceivingLocationOfInstructionType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CodeSets.html#AUCodeSetsReceivingLocationOfInstructionType) |
|  | LocationOfInstruction/OtherCodeList | O |  | [OtherCodeList](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#OtherCodeList) |
|  | SummerSchool | O | Is this a summer school assignment? | **values:**YesNo |
|  | SchoolCourseInfoOverride | O | Optional overrides of the course information for this section. |  |
| **@** | Override | M | Designates whether or not SchoolCourseInfo information has been overridden with different values for this section. | **values:**YesNo |
|  | SchoolCourseInfoOverride/CourseCode | O | Override of the school-defined course code for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolCourseInfoOverride/StateCourseCode | O | Override of the state-defined course code for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolCourseInfoOverride/DistrictCourseCode | O | Override of the district course code for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolCourseInfoOverride/SubjectArea | O | Override of the subject matter area for this section. | [SubjectArea](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SubjectArea) |
|  | SchoolCourseInfoOverride/CourseTitle | O | Override of the course title for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolCourseInfoOverride/InstructionalLevel | O | Override of the instructional level for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SchoolCourseInfoOverride/CourseCredits | O | Override of the course credits for this section. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | CourseSectionCode | O | A section code that is linked to a course. This should be a unique identifier within the school year and course (i.e. the class instance number for a course). For example, Algebra I: Section 23 is different from English II: Section 23.  | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | SectionCode | O | A unique identifier of the section for the school year and across courses (i.e. unique across all courses). For example, Algebra I sections range from 00122 to 00140 and English II courses range from 00141 to 00152. | [xs:normalizedString](http://www.w3.org/TR/xmlschema-2/#normalizedString) |
|  | CountForAttendance | O | Indicates if attendance in this section is collected and used in attendance calculations. | **values:**YesNo |
|  | SIF\_Metadata | O |  | [SIF\_Metadata](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SIF_Metadata) |
|  | SIF\_ExtendedElements | O |  | [SIF\_ExtendedElements](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SIF_ExtendedElements) |

*Table 3.3.28-1: SectionInfo*

<SectionInfo RefId="D3E34B359D75101A8C3D00AA001A1652">

 <SchoolCourseInfoRefId>101A8C3D00AA001A0000A2E35B359D75</SchoolCourseInfoRefId>

 <LocalId>287-1</LocalId>

 <SchoolYear>2013</SchoolYear>

 <MediumOfInstruction>

 <Code>0605</Code>

 </MediumOfInstruction>

 <LanguageOfInstruction>

 <Code>1201</Code>

 </LanguageOfInstruction>

 <LocationOfInstruction>

 <Code>0340</Code>

 <OtherCodeList>

 <OtherCode Codeset="Text">NSW DEC</OtherCode>

 </OtherCodeList>

 </LocationOfInstruction>

 <SchoolCourseInfoOverride Override="Yes">

 <CourseCode>CS101A</CourseCode>

 <StateCourseCode>08-001A</StateCourseCode>

 <DistrictCourseCode>CS101A</DistrictCourseCode>

 <SubjectArea>

 <Code>05</Code>

 <OtherCodeList>

 <OtherCode Codeset="Text">Graphic Arts for Beginners</OtherCode>

 </OtherCodeList>

 </SubjectArea>

 <CourseTitle>Graphics Basics</CourseTitle>

 <InstructionalLevel>Graduate Certificate II</InstructionalLevel>

 </SchoolCourseInfoOverride>

</SectionInfo>

*Example 3.3.28-1: SectionInfo - Example 1*

**Object Name: StudentSectionEnrollment**

|  | **Element/@Attribute** | **Char** | **Description** | **Type** |
| --- | --- | --- | --- | --- |
|  | **StudentSectionEnrollment** |  | This object contains information about a student's enrollment in a section of a course. |  |
| **@key** | RefId | M | The Id (GUID) that uniquely identifies this StudentSectionEnrollment entity. | [RefIdType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#RefIdType) |
|  | StudentPersonalRefId | M | The Id (GUID) of the student to whom the enrollment information applies. | [IdRefType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#IdRefType) |
|  | SectionInfoRefId | M | The Id (GUID) of the section in which this student is enrolled. | [IdRefType](http://specification.sifassociation.org/Implementation/AU/1.3/4/CommonTypes.html#IdRefType) |
|  | SchoolYear | O | School year for which the information is applicable, expressed as the four-digit year. e.g. 2013 | [SchoolYear](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SchoolYear) |
|  | EntryDate | O | Date from when this course section enrollment is valid. | [xs:date](http://www.w3.org/TR/xmlschema-2/#date) |
|  | ExitDate | O | The last school calendar day (membership day) the student was enrolled in the course section (inclusive). | [xs:date](http://www.w3.org/TR/xmlschema-2/#date) |
|  | SIF\_Metadata | O |  | [SIF\_Metadata](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SIF_Metadata) |
|  | SIF\_ExtendedElements | O |  | [SIF\_ExtendedElements](http://specification.sifassociation.org/Implementation/AU/1.3/4/DataModel.html#SIF_ExtendedElements) |

*Table 3.3.58-1: StudentSectionEnrollment*

<StudentSectionEnrollment RefId="983AC16598793002C3D00AA00456789D">

 <StudentPersonalRefId>CAE293165987101A8C3D00AA00456789</StudentPersonalRefId>

 <SectionInfoRefId>9076AB23E386112B7EA2256100BB3312</SectionInfoRefId>

 <SchoolYear>2013</SchoolYear>

 <EntryDate>2013-02-02</EntryDate>

 <ExitDate>2013-11-15</ExitDate>

</StudentSectionEnrollment>

*Example 3.3.58-1: StudentSectionEnrollment*

# **6 Migration Plan (for proposed changes to existing objects only)**

*One of the mandatory components of every Data Model Change proposal is the Migration Plan. This section describes the impact of the proposed change to legacy SIF Zones and the techniques, best practices and deployment guidelines designed to minimize that impact. It is normally filled out in coordination with SIF Staff or an experienced SIF Data Modeler.*

*All migration plans have the same overarching goal: allow an existing SIF Zone to migrate to the new change incrementally ... by changing only one component at a time while maintaining at least the previous level of functionality, and “breaking” nothing in the process.*

*Several common strategies (in order of desirability) are:*

***1. Add new elements rather than modify old ones***

*This places a requirement on new agents to support duplicate entries in order to maintain backwards compatibility with agents conforming to earlier versions of the standard. To use this strategy, there must be a clear mapping provided for agent writers to utilize. This would include mapping any new code set values to the collection of previously existing ones.*

***2. Constrain the impact to the ZIS***

*In this case the ZIS will transparently “bridge” between agents supporting this change and earlier versions. To use this strategy, there must be a clear mapping provided for ZIS vendors to utilize, and at least two vendors must “sign off” on this section of the proposal.*

***3. Reduce the impact***

*This approach is effective for changing only those parts of the SIF specification which have been minimally adopted. Start by mapping the set of changed elements against the CSQ matrices to determine the number of existing SIF-certified applications that will be affected. Work with SIF Staff to alert impacted vendors (those with certified, and where known, uncertified products) and identify the number of sites which will be affected. Depending upon the size of the impact, the change may be accepted for a minor release.*

***4. Extended Elements***

*Use the extended element construct to add the new changes. This has the advantage that it standardizes how the functionality will be introduced, but suffers from the disadvantage that conformance to the changes cannot be easily verified, and a further change will be required when moving forward to the next major release. It is the least desirable way to introduce changes into a minor release, and a strong justification for this approach should be prepared.*

***5. Wait until the next major release***

*Defer the proposed change until the next major release because a clear incremental migration strategy for it cannot be constructed.*

**Migration Plan:**

*Using the above techniques or alternative ones, specify the recommended series of incremental component upgrades or deployments (of application, agent or ZIS) which must be performed before the data model changes introduced by this proposal can be successfully incorporated into an existing SIF Zone.*

*N/A*

# **7 Issues**

*List any issues surrounding this proposal which the reviewers or approvers may need to consider.*