‘Access 4 Learning’ Toolkit

(North America)

Version 1.0, April 2014

Educational Stakeholder,

You are well aware of how your professional role has changed relative to the world of the identification, management, movement and usage of educational data. Our roles demand we address the traditional management issues we all have faced but now add to that concepts like "big data", "cloud hosting", "data breeches", "flipped learning", "mobile access", etc.– and our roles are getting more than daunting!

Imagine you lived during the Renaissance Era and were charged with protecting the walls of the castle surrounding your village. You must control access inside the walls (who can get to the King's living quarters) but even more importantly those outside the walls attempting to enter (who and how do people cross the moat). Your team today is charged with whom and what applications locally can access student information (SIS, grade books, teachers, administrators, etc.) and whom and what external entities gain access (reporting entities, cloud hosted services, foundations, etc.). The protected "stuff" is different but the roles are very similar – daunting!

A quick question for you: ***Are YOU in charge of your own data?***

The recently released US Department of Education's Privacy Technical Assistance Center's *"Protecting Student Privacy While Using Online Educational Services: Requirements and Best Practices"* provides practical guidance around legal, policy and contractual effective practices in the collection, management and sharing of data. The high level draft mostly focuses on the sharing of information between educational institutions and marketplace providers based upon the Family Educational Rights and Privacy Act (FERPA) and the "minimal requirements" in the protection of personally identifiable information (PII) from students' education records.

Over the past 17 years, the SIF Community, made up of 3,200 schools, states, government and marketplace providers have been enabling "granular data control" for data solutions through the development and usage of openly built technical software standards. This *"**Access 4 Learning* SIF Toolkit"** has been designed to provide the latest developments within the community and the technology now available to support your work – putting you in charge! Maybe the best way to update you is through commonly heard myths – many perpetuated by those not wanting standards to be used by organizations like yours:

Myth: ***SIF is a product***
SIF is a freely available, community built, open technical blueprint developers should be pushed to use for leveraging "enter data once and use many times best of breed" software choices for your organization.

Myth: ***SIF is not being used in the marketplace***
There are currently more the 100 certified software applications using the blueprint in all 50 states and internationally. To date, more the 17 million students and teachers are accessing data for learning via SIF-built applications.

Myth: ***SIF is just for school/district usage / SIF is just for state usage***
SIF was originated by LEAs to streamline their data management and increase the overall quality of data in usage between applications and mandated reporting. That will always be at the core of the work. Most recently states have been added to list of "to-do's" with the SIF Specification being THE ONLY standard enabling the ENTIRE Common Education Data Standards (CEDS) data model allowing for local through federal pK20 data systems development.

Myth: ***SIF utilizes old technologies***
SIF 3.0 utilizes the most advanced educational data model on the planet and now adds to that the recent option for REST-based transport and you have the most secure technological architecture in any sector.

The stakes have never been higher in addressing the privacy and security issues around student information but also and sometimes lost in the pressures we face, the successful learning progression for all students. **SIF puts you in charge – and this "Access 4 Learning" SIF Toolkit will show you how!**

Contents

What is SIF?

SIF stands for **S**chools **I**nteroperability **F**ramework (or Systems Interoperability Framework in Australia and United Kingdom). There are actually two usages to the term SIF – a worldwide community of like-minded professionals and a set of technical blueprints to empower software developers and end users in the goal of "enter data once and use it many times"!

The community is made up of schools and higher education organizations, local and regional authorities, government entities, and software developers all collaboratively address the identification, management, movement and ultimately usage of data. This non-profit is the ONLY place where development processes are done in a "platform independent, vendor neutral manner".

The SIF Implementation Specification blueprint enables diverse applications to interact and share data efficiently, reliably, and securely regardless of the platform hosting those applications. It is not a product, but a technical blueprint for enabling diverse software applications to efficiently, reliably and securely share data related to entities in the educational marketplace, regardless of the platform hosting those applications.

About the SIF Association

The SIF Association advocates for and promotes the development and implementation of software that supports the fluid movement of data between applications employed in educational environments with the goal of improving the quality and efficiency of learning, teaching, and communication. Through the active participation of both public and private sector technology and educational communities, the SIF Association provides an environment in which our shared vision can be enacted. By being grounded in immediate implementations, the solutions developed through the collaboration of the members of these communities have an impact on how educational institutions plan and make purchase decisions today.

The SIF Association believes that educators, administrators, and parents own the educational vision, whereas, it is the obligation of those who serve education to develop environments in which that vision can be tested and evolve. Through the development and implementation of interoperability specifications, the SIF Association supports the partnership between these communities to improve the quality of education for all learners.

For the vendor, the SIF standard facilitates seamless data sharing and reporting between conformant educational applications without incurring expensive customer-specific development costs.

For the end user, the application conformity it provides, allows educational establishments to purchase and deploy best-of-breed solutions easily and seamlessly.

The SIF Association has united these education technology end users and providers in an unprecedented effort to give teachers more time to do what they do best: teach.

The SIF Association:

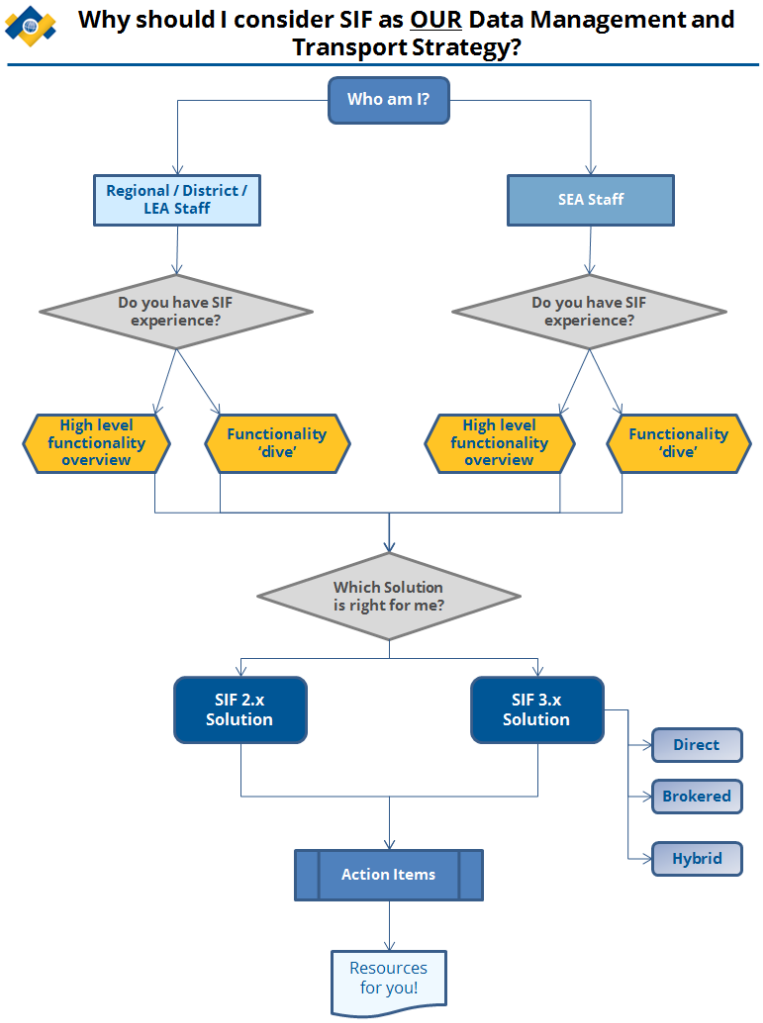
- **Does not want your data**
- **Does not have any products to sell you**

Starting your journey…

As an 'end-user', there are many questions for you to consider in your quest for real-time, data sharing. Keeping up-to-date with the latest and greatest technologies in the marketplace takes time and effort, without any guarantee that they will still be a viable option in the few years to come…

- Do you want to 'future-proof' your school/district/state technology strategy?
- Is data security and privacy a high concern for you?
- Do you want to 'enter data once' and have accurate, real-time data available for any other application within your environment to use, and possibly report from?
- Do you want to choose the best possible products, to do the best possible reporting/analysis within your educational institution, rather than have to utilize a product to save costs?

If you answered 'yes' to any of these questions, you should start by reviewing our end-user 'decision tree' which will help you take your first step to providing a secure, future-proof technology…



The End-User 'Decision tree' is a series of high level questions (based on the diagram) to guide you through which SIF solution is the best fit for you, as well as providing useful links, information and reading material which will help you moving forward.

The Decision Tree can be found on the SIF website here.

SIF Utilization and Impact Information

Many organizations tout 'how many' people or institutions are using their product, but are they providing a real-world solution? Read on to find out how several districts and states are using SIF to solve real-world problems and manage THEIR data…

SIF LEA Impacts

Districts SIF Utilization

The non-profit SIF Community does not develop or sell products but tries to gauge implementations of SIF-enabled products from marketplace providers. Due to competitive concerns, vendors are not 100% transparent with their product usage information due to competition matters with other providers. In aggregate form, we can validate the following usage information - again these are just implementations that we have verified, actual numbers can only be greater!

- All 50 states have SIF Implementations
- Over 85% of LEA SIS use the SIF Data Model (may or may not use infrastructure)
- 80-90% of LEAs SIS have SIF Agents built
- Over 3,200 LEAs have implemented SIF horizontally (Data Model and Infrastructure within institution)
- Over 15 million students being served via SIF interoperability globally

Detailed SEA Activities

At this time, 29 states have indicated they "are" or "are planning" to use SIF – and 75% of NCES State Longitudinal Data Systems (SLDS) grantees are using SIF to successfully implement their grant applications – 4 in just the last round! Right now states have implemented SIF in a variety different manner according to their needs. Some states use it for one function (i.e. student ID generation) and some use for the entire student management and reporting (State Longitudinal Data System). Large state-wide implementations in place include Ohio, Virginia, Utah, Oklahoma, Wyoming, Massachusetts, Alaska, Washington, South Carolina, with other implementations underway right now including New York, Minnesota, Illinois, Maine, Hawaii, and Iowa.

Several federal agencies and programs have recommended data interoperability by utilizing applications adhering to the SIF Specification. This has caused additional SEA's to stand up and take notice of the benefits of interoperability. Programs that mention using the SIF Specification are:

- U.S. Department of Education National Educational Technology Plan
- Migrant Education Student Data Exchange
- Child Nutrition Act Re-Authorization Bill of 2004
- IES State Longitudinal Data Grants Program
- National Center of Education Statistics Common Education Data Standards (CEDS) Program
- Race to the Top Assessment Consortia
- Several State Legislative Activities

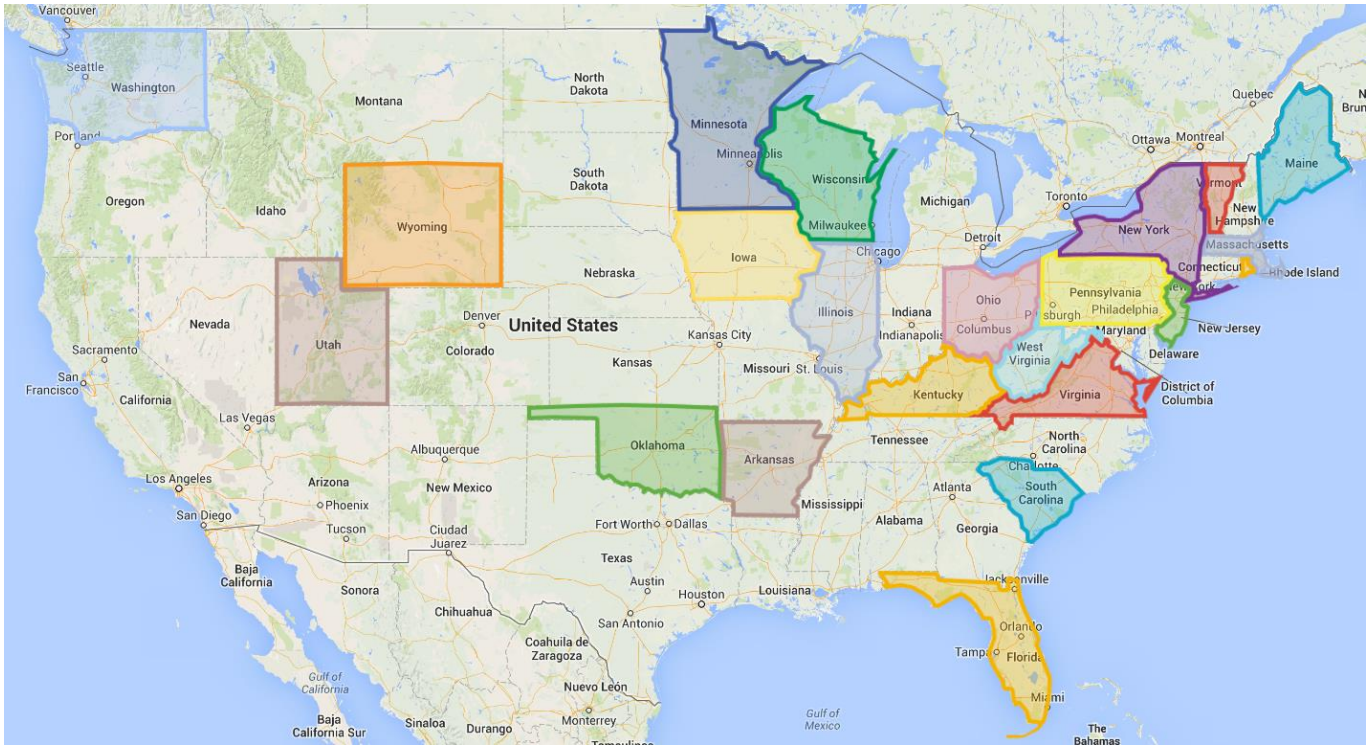
Data collection and analysis are not only critical at the LEA level but also at the SEA level. Without accurate and timely data collection, it is burdensome for the SEA to collect data and prepare their federal reports. Every state now consumes many hours of manual data manipulation to merge the LEA's information into a format that the SEA can use. This process causes delays which could impede educational funding allocations for SEA's and LEA's.

States are joining the SIF community because they recognize the advantages of being a part of the collaboration that develops the SIF Specification as the pK-12 Data Standard. The 3.0 version of the technical blueprint incorporates all of the Common Education Data Standards (CEDS) data model - jointly developed by all states linking various federal activities all in one place (EDFacts, RTTA, Handbooks, SLDS, etc.), . Many states understand that their needs can be addressed in the specification and have recognized that the SIF Association is playing an important role in encouraging partnerships and collaboration among educators, policy-making and vendor organizations-–as well as other standards bodies. **Shouldn't you be at the table?**

State members of the SIF Community:

- Alaska
- California
- Iowa
- Kansas
- Massachusetts
- New York
- Ohio
- Oklahoma
- Virginia
- Vermont
- Washington
- West Virginia
- Wyoming

Utilization Map



*State-wide SIF Implementations Details **

Alaska One of the IES grantee states that has been working on designing their longitudinal data system with SIF vertical reporting as the backbone. After finalizing the needs analysis phase of the grant Alaska is in the final implementation stages of this system. Alaska has also been working closely with their districts and the Association in SIF awareness activities.

Hawaii **(SLDS) –** The goal of this project is to create an enterprise service bus for data interchange of all of DOE's operational data systems by creating a SIF-based Operational Data Store (ODS) to:

1. enable real time intersystem data transfer to increase organizational agility by enabling new information to be acted upon immediately, the ability to track changes to data over time,
2. support analytics and reporting through to the Hawaii Department of Education's (DOE) K-12 Longitudinal Data System
3. Support preschool to workforce data standards and federal reporting by aligning with the Common Education Data Standards.

The ODS will integrate current data from multiple source systems into a single structure, using SIF 2.5 as the messaging standard. The ODS will support real-time transfer of data; facilitate federal reporting and longitudinal analysis over an extended period of time.

Iowa State-wide SIF implementation utilizing SIF to populate a cloud based service structure. SIF is also being used in their transcript exchange and state-wide portal development.

Kentucky **(SLDS) -** KSIS is the authoritative source for student data and SIF-based solutions provide data management support. This includes but is not limited to student demographics, attendance, behavior, health, grades, GPA, graduates, courses, teacher-student class rosters, and program participation including special education, gifted and talented, Title I, limited-English proficiency, Family Resource and Youth Services Centers, free and reduced meal status, preschool, and migrant. The data system also includes school, district, superintendent, principal and teacher information.

Massachusetts **(SLDS) –** State-wide real-time event driven SIF implementation underway including the mandated requirement for marketplace providers to be both "SIF Certified" but also certified to a "MA SIF Profile" and standardized Process Model. This will automate all LEA to SEA reporting requirements but also enable the LEAs to address their locale-specific interoperability challenges by standardizing their data management processes.

New York The state is utilizing SIF identity management and vertical reporting functionality to populate their state-wide Race to the Top project including using SIF to populate their inBloom state-wide implementation project.

Ohio **(SLDS) -** Another SLDS grantee winner has successfully implemented SIF to replace their outdated state-wide reporting system. The project has streamlined and automated data reporting and now is being utilized to develop a state-wide financial reporting system for end-to-end LEA to SEA reporting systems. There is interest in a new project that is taking a different approach in the use of the SIF Implementation Specification in that the project is geared to moving and sharing instructional content to the teacher desktop to improve teaching and learning.

Oklahoma **(SLDS) -** Vertical Reporting for all 540 districts as part of the state's WAVE Project. This project is unique in the disparate student information systems and the size of the districts--ranging from the

smallest (with 13 students) to the largest (with 42,000 students).

Pennsylvania Was the first state to conduct the first proof of concept pilot for SIF Vertical Reporting. Pennsylvania purchased SIF memberships for their 29 IU's and is finding significant value.

South Carolina Vertical Reporting with student locator framework. Implemented horizontal implementations for all 85 districts and is enabling eTranscripts using the SIF Student Record Exchange Objects. The total SIF vertical implementation was accomplished in a matter of seven short months.

Utah **(SLDS) -** Has a state-wide student information system (SIS) and has just completed its state SIS to Special Education Application for Vertical Reporting. This will allow for 100% Vertical Reporting for all 40 districts to the state and utilizes SIF to populate their state-wide cloud hosting services.

Virginia The Department of Education has successfully completed the state-wide rollout of the SIF Student Locator Framework and state-wide SIF vertical reporting functionality. The Student Records Exchange framework is being used to support their transcript functionality needs. Virginia continues to lead the way with providing creative incentives and funding for the divisions as they strive to reach their goal of state-wide SIF.

Vermont **(SLDS)** - Vermont is implementing a State-wide Longitudinal Data System that will leverage SIF 3.0 to automate reporting from all public schools to the State Agency of Education. These data will be analyzed at the state level, allowing key performance indicators and metrics to be calculated and reported back to education stakeholders via dashboards and reports on a near real-time basis. This implementation will streamline reporting and provide timely access to actionable information for program evaluation and continuous improvement.

Washington The Washington School Information Processing Cooperative (WSIPC) serves over 600,000 students in 282 K-12 schools. As the state's largest provider of school administrative systems for student and business administration, they actively manage the majority of the state's K-12 population and over $6B in annual district budgets. SIF has become an integral part of the cooperative's long-term strategy to scale difficult solutions for a vast population in a conforming, economical manner. WSIPC's implementation of SIF currently serves a population of approximately 50,000 students and has met with much success as they deploy SIF to additional schools. The State Department of Education also is in the implementation stage of student locator and student records exchange through this WSIPC partnership.

Wyoming **(SLDS) -** Vertical Reporting and horizontal implementations for all 48 districts. Each district will have up to 10 applications in the horizontal implementation. The scale of the SIF project is impressive - as is the state's forethought in assisting the LEA's with planning and implementing. Wyoming is also undertaking SIF student record exchange as a second phase of their SIF implementation to support the state Hathaway Scholarship program. Wyoming also found value in offering SIF memberships for its 48 districts and has purchased.

States utilizing the SIF Specification in various forms:

Arkansas **(SLDS) -** Working on various phases of incorporating SIF into vertical reporting activities and/or their longitudinal data system. These activities include, needs analysis, phased planning and RFP writing. The Association has been supporting these states via consulting with them on their plans to use the SIF Implementation Specification.

Florida **(RTTT) -** Working on various phases of incorporating SIF into vertical reporting activities and/or their longitudinal data system. These activities include, needs analysis, phased planning and RFP writing. The Association has been supporting these states via consulting with them on their plans to use the SIF Implementation Specification.

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Minnesota **(SLDS) -** Working on various phases of incorporating SIF into vertical reporting activities and/or their longitudinal data system. These activities include, needs analysis, phased planning and RFP writing. The Association has been supporting these states via consulting with them on their plans to use the SIF Implementation Specification.

New Jersey Uses SIF definitions in data dictionary for state wide data collections.

Rhode Island **(SLDS) -** Working on various phases of incorporating SIF into vertical reporting activities and/or their longitudinal data system. These activities include, needs analysis, phased planning and RFP writing. The Association has been supporting these states via consulting with them on their plans to use the SIF Implementation Specification.

West Virginia **(SLDS) -** Working on various phases of incorporating SIF into vertical reporting activities and/or their longitudinal data system. These activities include, needs analysis, phased planning and RFP writing. The Association has been supporting these states via consulting with them on their plans to use the SIF Implementation Specification.

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**Information being updated as provided*

Many more states are looking to SIF as a solution of choice for data interoperability needs. All SEA and LEA Success Stories can be found at: https://www.sifassociation.org/NewsRoom/Pages/Success-Stories.aspx

SIF Marketplace Impacts

SIF data domains most broadly used by application vendors and districts

This can vary greatly whether the standard is being used at a school, district or state level – which is a key design feature to its scalable success. Generally at the school and district level the priority is to link the SIS with another high "pain point" duplication/usage application. This is usually the HR, transportation, foodservice, accounts management, library and/or grade book software. Many SIS have varied features and functionalities so some of this can be accomplished within an application. At the state level the focus is more on the unique student ID generation, mandated state reporting from the local SIS, and soon to be assessment information transfer.

Approximate number of application vendors supporting SIF

There are, at any given time, over 100 Certified Applications but we have over 200 developer members across the globe in the SIF Community – and the number is growing due to end user demands. Since SIF is an open standard, we know that many vendors in the education space use the SIF Specification for its mature data model but do not get involved in the initiative. We are expecting those numbers to jump exponentially with the recent SIF 3.0 release.

SIF Technology Levelling

The usage of openly developed standards has been shown to:

- Assist in the development of sound educational policies at all levels and permit the comparison of educational processes across communities and states
- Improve the quality of instruction and increase student achievement by integrating instruction, assessment, and outcome reporting as well as easy discovery, access, and use of learning materials.
- Improve the accuracy, timeliness and communication of nationwide reporting summaries of condition and progress of education via local, state, and nationwide education research.
- Allow for access to data various educational stakeholders require when they require it – and future access to data they have yet to identify

The usage of openly developed standards directly allows for:

- An "even playing field" between small and large developers by providing a baseline they all can develop to and then allow for uniqueness to their products and services.
- Empowerment by consumers to choose "best of breed" solutions for their needs allowing for choice among customized, personalized learning experiences
- Scalability demands of schools and states that oftentimes is dependent on funding cycles
- Easier comparison of provider capability and quality
- Prevent "vendor lock-in" by allowing for platform independent and vendor neutral environments that allow for easy plug and play of applications

The SIF Specifications now reflect:

- A separation of data model from infrastructure allowing for the "tailoring" of data needs and transport.
- Usage of the most updated and common transport technologies (HTTPS, SOAP, REST, etc.) to allow for any developer to use their existing development tools and strategies
- The linkages to various developer tools (REST Sandbox, Data Model Extension Tools, etc.) that make it easier than ever to test against and support their product development cycles.
- A reduced fee Certification Program that has been developed to address the growing demand of customers allowing for huge return on investments for marketplace providers.

SIF Utilization Globally

SIF usage over time and locale

We currently are seeing a major increase in interest in specification global usage due to many factors and across all three of our communities.

North America: A year ago the US leaders of the community committed to making the SIF 3.0 release to incorporate all of the CEDS logical data model into the SIF data model, split the data model from the infrastructure and provide usage of marketplace technologies to allow for infrastructure choice (i.e. Direct and Federated connections, REST/SOAP utilization, etc.). The current focus is on enabling the dozens of other data initiatives, mandated reporting, record exchanges and local application interoperability.

Example: Press Release – SIF Association publishes the SIF 3.0 Specification – the data standards 'game changer'!

Australia: There have been more than two-dozen successful SIF pilots developed and delivered on by the AU SIF community lead by the CTO's of each state and territory. The federal government has formalized organized SIF as a component to their data strategies in a national "SIF Statement of Commitment" has been released to the marketplace allowing for greater clarity between schools and providers who serve them. Current focus is identity management, assessment and single sign on.

Example: AU Statement of Intent for the adoption of SIF in Australia and Success Stories – Tri-Borders Project

United Kingdom: The UK SIF community is currently designing a strategy with the Department of Education and their Information Standards Board to utilize SIF to automate reporting across the UK. The current focus is on the schools to further education tracking and federal reporting.

Example: Success Stories – Warwickshire County Council

White Papers

Centralized vs. Distributed Educational Solution Architectures

SIF Association

Centralized vs. Distributed Educational Solution Architectures -
Data Confederacies compared to *Data Unions*

The Issue

There are real and growing privacy concerns about Local and Government Education Authorities ceding, or being forced to cede, control over exactly who can access their student's sensitive data and for what purpose. Educational solutions can be constructed, which address such data privacy concerns, without impacting their value to teachers, parents, administrators and others who use the saved data to more effectively meet the needs of individual students.

Many educational institutions (local, state/territory and federal agencies or even foundations) see the value of a single "grand Data Store" containing all the information they must gather and maintain. The reality is that it is often far more effective to architect the Data Store as just one "citizen" in a community of interoperating applications because, for security reasons, it may not contain all the data it needs to answer every question that it might possibly be asked! (Example: Give me the identities of all special education students in District X with more than two discipline incidents).

Ideally a Data Store is a Consumer (gathers data) and a Provider (gives it to analytics applications for analysis and reporting), but its access to data should be controlled the same way as any other application. In a "Data Union", the Data Store gets unrestricted access to all the data and enforces who can access and change it. In a "Data Confederacy" the Data Store only gets access to the data that the local data administrators have determined it can acquire.

Compare and Contrast: Multi-tier Educational Data Sharing Architectures

Architecture	"Data Union"	"Data Confederacy"
Description	• A single central Data Store is given access to all (demographic, health, discipline, etc.) student data in a State or large District and identification data that ties that information to a specific student. • All requests to access Student-related data go to this one central source.	• Every data point has an "owner of record" (ex: an SIS/LMS data provider) responsible for its accuracy and relevance. "Master Data Management" (MDM) allows for distributed control. • Consumers wishing to access student-related data may be transparently redirected to the actual owner of that data.
Data Security	• The Providers of the data are not involved in restricting data access or enforcing data security. • The "cloud" may contain student data from multiple states, each of which "shares" the same security policies (ex: a single representation of a student identifier).	• Data security policies are locally defined and enforced by local administrators before the data is send to Consumers. • Consumers have access to the ID element it was given. Updates return to Consumers with associated analytics, resources, etc. may not be linked to the actual student record.
Accountability	• A centralized Data Store seldom guarantees more than "best effort" responsibility for ensuring the privacy of student data it has been entrusted with.	• Local Administrators traditionally have been held accountable for any security breaches of the data they control.
Flexibility	• Since the data store is the owner, it must contain identity information for all students.	• Data security policies may be imposed and enforced by the Data Store, the Data Owner (ex: SIS) or the responsibility for ensuring data privacy may be ceded to a Data Consumer such as a trusted Portal.
Market Penetration	• Successfully deployed wherever a single organization was in control of data consumers and providers, and a single security policy could be mandated (Banking, Higher Ed, etc.)	• Successfully deployed wherever data was being provided and utilized by multiple organizations and/or by multiple levels within the same organization (Healthcare, K-12, etc.).

February 2014

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To read more, please click here.

Ed Tech: Ensuring All the Pieces Still Fit Together

SIF Association

Ed Tech: Ensuring All the Pieces Still Fit Together

Metrics for "Either-Or" Data Propositions

The Issue

"The more technical standards the better it is for us – it means there are NO technical standards" - Large Education Marketplace Vendor

Kids (and many adults) love puzzles. Even while in single age digits, kids know to grab the cover of the puzzle box when they get stuck to see what they are supposed to be building. Just when we, educational technologists, thought we had finally worked out our own jigsaw puzzle box cover set showing the complete picture of the a secure education solution architecture we were collectively striving to construct, newly shaped pieces suddenly appeared that did not fit in with the ones we already had and only served to obscure our picture.

We use that analogy because the clarity brought to the United States educational technical standards marketplace via the Common Education Standards (CEDS) work, being championed by the National Center for Education Statistics (NCES), is at risk of being obscured by new players who are adding a variety of pieces from a set of entirely different "solutions" puzzles that simply do not adequately connect to the ones around which consensus has (at times painfully) finally been achieved. In the past such players tended to be large marketplace vendors pushing back against community built open technical standards by inserting their own proprietary solutions to lock in customers. Today, due to the hard work done by CEDS and other technical standards communities, most educational vendors are on board with supporting standardized interfaces so as to provide product "plug and play" capabilities to their customers.

That removed one barrier to application interoperability, but others have recently arisen. Today the organizations adding to the confusion in our puzzle construction are small scoped services providers at the low end and large foundations at the high end. Each supports one or more narrow solutions they believe teachers and students want – without taking into account the bigger picture of how the broader range of school, district and state data and resources are to be identified, managed, secured, transferred and used. It is a kind of "wouldn't it be cool if we could just..." technology mantra that unfortunately tends to produce newly shaped pieces which cannot be integrated into the big picture of the large developer and end user CEDS solution deployments.

March 2014

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To read more, please click here.

SIF Certification Program

About the SIF Certification Program

The objective of the SIF Association is to enable disparate vendor applications to exchange data, without the end-user re-entering data multiple times, to provide secure and consistent information to all applications across a given zone/environment. The SIF Association established the SIF Certification Program to help ensure that data is successfully transferred between applications and that the transferred data successfully resides in all sharing applications, by using an open, community developed data standard – the SIF Specification. The SIF Certification Program is a voluntary program, and is open to any member of the Association.

Several documents are of particular use to any solution provider considering obtaining SIF Certification for their product:

- The SIF Certification Guide provides an overview of the entire certification process, including 'checklists' to assist with every certification process, and should be referred to first.
- The SIF Certification Policy documents in detail the policies that govern the operation of the SIF Certification program. These policies define what software products can be certified, what it means to be certified, and the process for achieving and maintaining certification. Buyers intending to procure SIF-certified products will also find this document useful for understanding what they may expect from such a certified product.

All products that have successfully completed the SIF Certification Program are listed in the SIF Certification Registry. A full list of the SIF Certification Fees is also available from this site.

Benefits

The certification program benefits both customers and vendors by:

- Providing end users an assurance of a high level of conformance and interoperability between SIF-certified products.
- Reducing the vendor's costs and risks involved with getting a product certified.

Under the SIF Certification Program, vendors warrant conformance to a specification. This requires that their product will remain conformant throughout the life of the product's registration, and that any non-conformance will be promptly fixed.

Future Tools Development

The SIF Association are working hard to develop new tools to enable the end-user to understand exactly what object/elements are being utilized in a vendor's product. These will include:

- **Conformance Statement Summary**: Allowing the end-user to have compare and contrast varying products to ensure they are purchasing 'best of breed'
- **Alignment Tool**: As a State, you have worked hard to input your requirements into the CEDS Align Tool. The Association are working on ways for you to utilize this information for your technology strategy such as linking your requirements to marketplace products.

We are always keen to get input on our development direction! Community members are encouraged to let us know what tools they require to assist in their decision planning and policy making.

Next Steps

- ✓ **READ** '*Access 4 Learning*' Toolkit.
- ✓ **REVIEW** '*Access 4 Learning*' end-user 'decision tree' to understand which SIF solution may be best for you.
- ✓ **READ** SIF Association white papers to understand the various standards in the educational marketplace and how they may affect your decisions.
- ✓ **UNDERSTAND** how the SIF Certification Program provides the end-user with a high level of assurance and quality control for all SIF Certified products.

- **REVIEW** the 'Resources for Decision Makers' pages on the SIF website:
  - **Implementation Planning Toolkit** (primarily aimed for 2.x SIF solutions, but can be adapted for 3.x solutions),
  - **RFP Language** to help you demand true interoperable solutions to meet your requirements,
  - **Readiness Assessment Survey** designed to measure individual perceptions about your school/district's readiness for a data integration initiative.
- **REVIEW** the SIF Certification Registry to get a better understanding of the products currently in the marketplace using SIF.
- **CONTACT** your current vendors – start having the conversations with them about interoperable open standards!
- **JOIN** the SIF Association – help us to help you!
  - Have the opportunity to share effective best practices with a wide variety of education decision-makers -- as well as software developers and vendors/suppliers as well as to collaborate with other like-minded individuals to resolve marketplace issues and policy's,
  - Network with vendors and local, state and national education decision-makers,
  - Have a platform to propose 'real-life' Business Use Cases to mold specification development to ensure it meets your marketplace demands,
  - … And much, much more! Review more membership benefits on our website.
- **CONTACT US** for further information
  - **Larry Fruth Ph.D.** - Executive Director/CEO, SIF Association – lfruth@sifassociation.org
  - **Penny Murray** – Community Development Manager, SIF Association – pmurray@sifassociation.org

Appendix

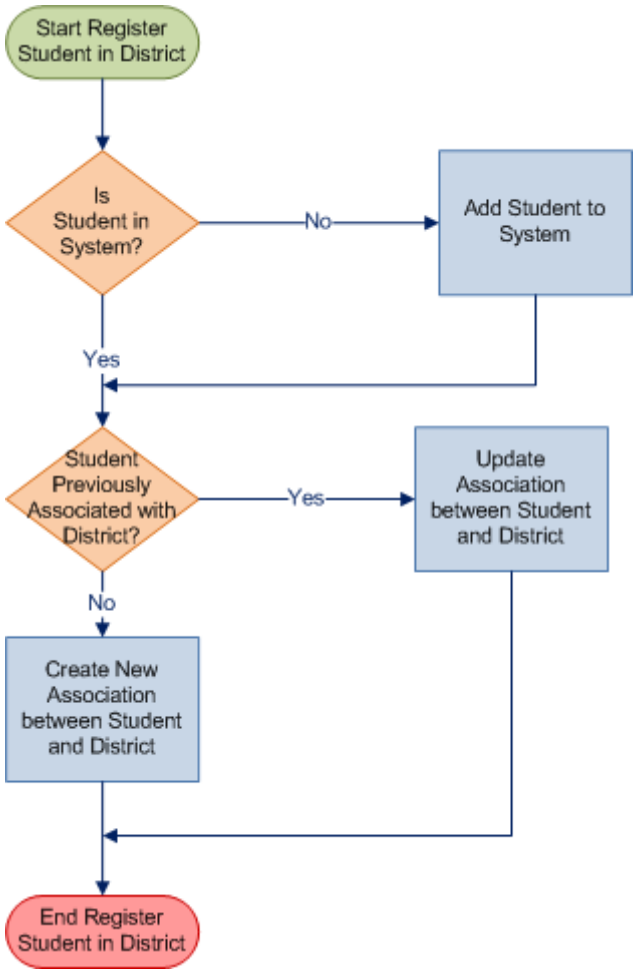
Example Use Case 1: Register Student in District

Description

Registering a student in a district requires the creation of a new student entity if one does not already exist, altering the data for the student to current values if the student entity does exist and then creating an association of the student entity to the district entity. The Student object represents the student entity. The district entity is represented by the LEA object and the association of student and district is represented by the Student LEA Association object. For each object, only the elements required to address the Use Case and to fulfil the Task are included.

Use Case: Register Student in District - Overview

Figure 1



For more information on this and all Use Cases within the Toolkit, please refer to the SIF Object Usage Guide available from the SIF Implementation Specification (North America) 3.1 webpage here.

Example Use Case 2: Enrol Student in School

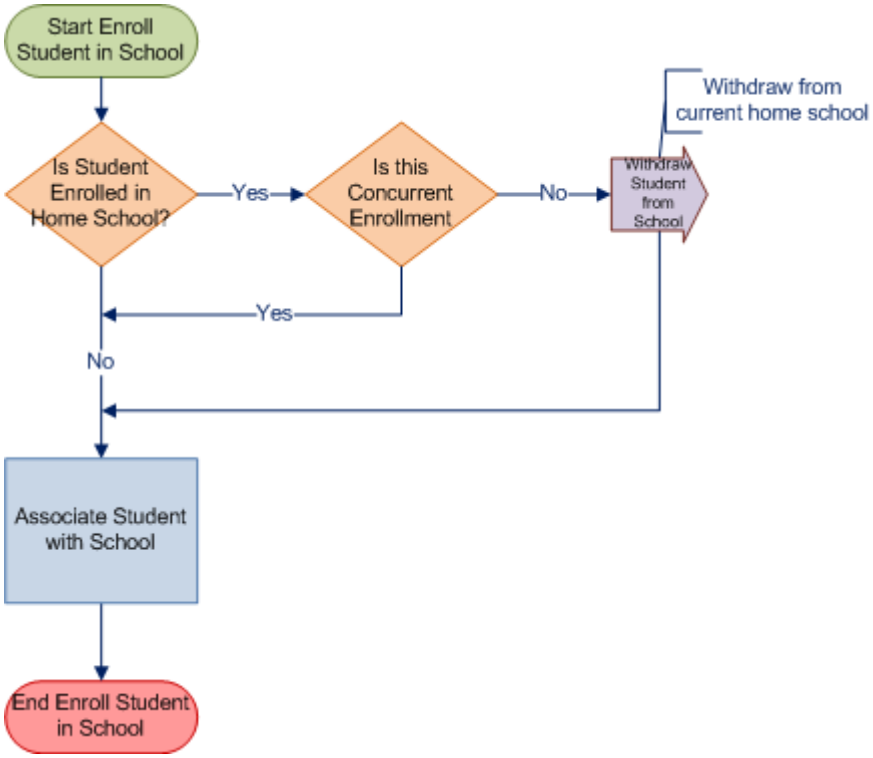
Description

This user story describes only the student enrolment at a school. If the student does not exist in the system or if student information needs to be modified prior to enrolment, other user stories describe those activities. If the student is being enrolled at their home school and they are already enrolled in a home school, they must first be withdrawn from that home school. If the student is being enrolled at a concurrent school (i.e. they are concurrently enrolled at more than one school), they must be enrolled in their home school first.

Enrolling a student in a school requires an existing student entity and an existing school entity in order to create the association between them along with the information for that association. The student entity is represented by the Student object, the school entity by the School object and the association of student and school by the Student School Enrolment object.

User Story: Enrol Student in School - Overview

Figure 1



For more information on this and all Use Cases within the Toolkit, please refer to the SIF Object Usage Guide available from the SIF Implementation Specification (North America) 3.1 webpage here.

Example Use Case 3: Change Grade Level

Description

For each day of student enrolment, students are enrolled into a single, distinct grade level. The typical student is in a grade level for an entire school year. After the end of the year, the student is promoted to the next grade level for the next school year. This year-end scenario is discussed in the year-end rollover process user story.

Another scenario, the one addressed in this document, is where an individual student grade level must be changed during the school year. More specifically, the scenario addressed in this document describes the best practice for changing the GradeLevel element in the Student School Association object.

The student grade level that exists in the Student School Association object is the most accurate and timely representation of grade level. It can provide the current grade level status of a student as well as a detailed history, by date, of a student's grade level. Student grade level appears other places in the Specification, e.g., GradeLevel in Student, but is more ambiguous with respect to time or specific only for a single point in time, such as GradeLevel in a snapshot object.

Rules describing pre- and post-dated changes are to student grade level in the Student School Association object are not addressed in this document.

For more information on this and all Use Cases within the Toolkit, please refer to the SIF Object Usage Guide available from the SIF Implementation Specification (North America) 3.1 webpage here.

