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▶ SIF pays off
for schools

▶ New spec
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▶ States launch
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Information + Participation = Achievement

By Mark Silzer, Ph. D.

Over the past two years, our communications standards have undergone a dramatic transformation. The mass adoption of email, mobile phones, the Internet and social networking services as primary communication and information resources has resulted in a more integrated, data-driven, on-demand society. Despite the fact that our society is becoming increasingly more tech-savvy, our schools have been slow to adopt the technologies needed to positively impact communication in education.

Quality education relies, largely, on professional educators and parents having instant access to the information, resources, and tools required to effectively serve students of all ages. Instructional, administrative and performance data must be readily available to all necessary parties in order to increase interaction and participation. Sadly, this is not the case in today's education system.

Education is facing a critical challenge in technology deployment due to a lack of interoperability. Frequently the applications available for primary and secondary (K-12) schools and their districts are either closed systems or systems that allow customer access only through proprietary interfaces and data formats. The result is costly, redundant and inefficient systems that create opportunities for isolated and often inaccurate data. The lack of interoperability also leads to headaches for school, district and state technology coordinators attempting to support and maintain multiple proprietary systems under strict budgetary constraints. How do we relieve the pain?

There are efforts underway to combat these challenges, most significantly those led by the Schools Interoperability Framework Association (SIFA). SIFA's membership – which comprises leading software vendors, school districts, state departments of education and other organizations active in the primary and secondary education markets – has come together to create a standard set of rules and definitions which enable software programs from different companies to share information. By establishing a set of agreed upon standards, we ensure the availability of the most timely and accurate information and thereby increase opportunities for interaction and participation among school administrators, teachers, parents and students. At the center of this activity lies the student – the group most directly impacted by these efforts and changes. How does the increased availability and sharing of data influence student achievement? By increasing the participation of everyone involved.

What was once the Information Age has quickly evolved into the Participation Age – with society leveraging increased data-access and interconnectivity to further engage, interact and influence one another. The sharing of information and data has expanded existing networks and increased the value of individual contributions to creativity and problem solving. The same holds true for our education system.

Initiatives such as SIF and the proliferation of student information systems (SIS) such as PowerSchool (which is a SIF-certified vendor) focus on streamlining the availability of relevant information to stimulate increased participation in student's daily lives. Increased interaction and participation is essential to the overall improvement of student achievement; particularly parental involvement. Educators have found and frequently reported that parental involvement is critical to increased student achievement and school reform. Parents are sounding the call for greater involvement in their child's education – and are looking to technology as the means to this end.

PowerSchool recently commissioned an independent nationwide survey of more than 1,550 parents with one child or more in grades K-12. The survey determined the current level of communication parents have with their child's school and whether or not the frequency and manner of that communication could be improved. The survey also gauged parental attitude on the impact communication has on overall student achievement. The survey found that the vast majority of parents surveyed agreed that student achievement would increase if current communication methods between schools and parents were improved.

In the on-demand Participation Society, convenience is a key factor to increasing parental involvement throughout grades K-12. The vast majority of parents (94%) indicated a desire to become more involved in their child's progress in school by using the Internet to access their child's academic information and to communicate with teachers. Within this same group of parents, 93% felt that this opportunity would positively affect their child's overall academic performance.

94%
of parents want to be more involved by using the Internet to access student data



School administrators have an opportunity to tap into this parent enthusiasm as only 34% of parents have online access to their child's academic information today. By giving parents access to pertinent student information more regularly, the typical parent/teacher conference transforms into a more student-centric conversation with time focused on mapping out strategies for academic progress rather than simply reviewing grades.

By increasing the availability of student information via a vehicle most convenient to today's busy parents (the Internet) schools can effectively change the parent/teacher dynamic and create an interactive and ongoing dialogue where the student's overall achievement and well-being is positioned squarely in the center – where it belongs.

PowerSchool

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Study: SIF pays off for schools

Cost-benefit analysis suggests that SIF adopters are reaping benefits

By Paul Korzeniowski



For years, since the Schools Interoperability Framework (SIF) first was announced in 1999, school leaders have heard the promises: SIF will make school software programs interoperable, regardless of their manufacturer; it will eliminate the need for multiple data entry; and it will streamline and transform school administrative functions.

Until now, however, many school leaders have been leery of taking SIF's supporters at their word. Instead, several administrators have been waiting for tangible results from other districts that have implemented SIF solutions before investing in the up-front costs of the technology themselves.

Well, SIF-certified products now have been on the market for several years. A growing number of school systems have had sufficient experience in implementing SIF, and so far, the results appear promising: According to an independent study of three school systems willing to share their SIF experiences—Liberty Public School District in Liberty, Mo.; Naperville Community Unit School District 203 in Naperville, Ill.; and Western Heights Public Schools in Oklahoma City, Okla.—SIF has led to measurable cost savings as a result of the easier integration of software applications, more effective use of staff time, and increases in government funding that come from better tracking and reporting of student data.

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Paul Korzeniowski is a freelance writer living in Sudbury, Mass., who writes frequently about education and technology.

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SIF has the potential to simplify data exchanges among all types of applications: student information systems (SIS) software, transportation and food-service software, library automation systems, and even learning management systems. The easy exchange of information among these various systems brings several additional benefits:

- Administrators can make more informed decisions about individual school or district-wide expenditures;
- Improvements in operational processes can lead to increased efficiency and enhanced student services;
- Increases in state and federal funding can be achieved from more accurate student counts; and
- Teachers can more effectively differentiate instruction and improve student achievement.

All of these benefits enable districts to direct more of their efforts toward their most important mission: educating children.

For its study, Educational Systemics interviewed key educators at each of the three districts, which all had different needs and varying experiences with SIF.

Liberty wanted to use SIF to eliminate duplicate data entry and redundant processes in two of its software applications. Two groups in particular have benefited from this deployment: the IT staff and librarians. Liberty's IT staff have reduced their data entry and troubleshooting chores, and the librarians have improved their services because they are able to access information in real time.

Naperville's SIF implementation also started out as an IT solution for eliminating multiple data entry; however, the project has grown into a broader solution, one that has facilitated data-driven decision making as SIF has become the district's central messaging hub. As Naperville continues its SIF implementation, which just began last year, it expects to develop more sophisticated data analysis that will improve student performance.

Western Heights started its SIF implementation five years ago. The project has enabled the district to acquire "best-of-breed" software applications and build a data warehouse with custom reporting tools that reportedly have raised student achievement and boosted federal funding as a result of more accurate student counts.

While the potential benefits can be alluring, schools have to make an up-front investment in SIF as the first step to implementing the technology. The costs for SIF can vary widely, depending on the nature of the solution desired and what kind of infrastructure (hardware, software, and network) a district already has in place.

If you decide to use existing software applications, the costs are much lower than in cases where wide-scale changes must be made. Fortunately, school leaders contemplating a SIF implementation often find that several of their existing applications already are SIF-certified, thereby eliminating or reducing the need to acquire new software applications.

The three districts studied illustrate the dramatically different possibilities in initial expenses. Liberty used its existing student information and library systems, so no additional software was acquired. Naperville purchased only one new application of the four it implemented. On the other hand, Western Heights elected to purchase "best-of-breed" applications



in each area to ensure robust functionality and SIF compliance. As a result, 40 percent of Western Heights' high costs stemmed from acquiring new applications. In addition, 57 percent of the district's SIF expenditures to date have been for consulting and the implementation of a data warehouse; however, the district reportedly has recouped that investment through its resulting increases in federal funding and student performance.

Strong leadership and project management were among the keys to success in all three SIF implementations studied. According to Educational Systemics, the implementation process that seemed to work best was a "staged approach": implementing one application at a time until it worked properly, then moving on.

Districts typically began with their SIS, because it serves as the main access point for student data. Implementing SIF with existing applications, the study said, obviously was quicker—because there was less of a learning curve involved.

Here's a closer look at the findings for all three districts.

Starting small: Liberty frees up staff time—and improves communications

Liberty Public School District officials faced a classic "good news, bad news" scenario. Enrollment has grown 90 percent over the last 13 years, largely because Liberty consistently has been recognized as one of the state's top-performing school districts. It has students who routinely score above state and national norms on standardized tests, has been honored by the National School Boards Association (NSBA) for technology excellence, and reportedly is the first district in Missouri to implement SIF.

Because enrollment was growing, however, Liberty was having difficulty maintaining consistent data between its SIS (Pearson School Systems' SASI) and library management system (Follett Software's Destiny). Students' contact information was inconsistent and often erroneous. As a result, maintenance of these systems was time consuming and inefficient.

Consequently, Liberty began searching for a technology solution that would allow both systems to communicate without manual intervention. In 2001, Trey Katzer, technology director for the district, attended a presentation at an NSBA conference that depicted SIF as a possible solution to the district's data interoperability problems. In October 2001,

Katzer approached Edustructures, a K-12 technology integration provider, about becoming a test district using SIF to ease data exchanges between two existing applications. After holding numerous training sessions with staff to clarify and refine the district's data-entry strategy, the district created flow charts of its operations and streamlined its processes.

After a thorough evaluation, Liberty tested SIF in two schools in 2002. The district used a retired Dell PowerEdge 2400 as the server on which its ZIS (Zone Integration Server) resided, and the only expenses it incurred were for the ZIS and two SIF agents. Once these were in place, Katzer said, ongoing maintenance was minimal.

The district rolled out the implementation to its remaining 12 buildings the

following year, facilitating compatibility between its SIS and library systems. The results have been evident in four areas, according to Liberty officials: reduced data entry time, decreased troubleshooting, improved library services, and enhanced internal communication. As a result of the project, new student data are transmitted in real time from the SIS to the library system without requiring any data entry from librarians. This saves about two to three minutes per new student—and with Liberty's rapid rate of enrollment growth, those minutes quickly add up.

Another benefit of the real-time update of information between systems is improved library services. Librarians have more time to focus on serving students, and "the new student does not feel bad about holding up the [library check-out] line," noted Katzer. By having a single point of data entry, Liberty also has reduced its data troubleshooting time. With only one system to check, IT staff can find and correct errors much more quickly, freeing up their time to focus on other projects.

In addition, the project has improved internal communication. Centralizing their data has taught Liberty staff members the benefits of working as a team to follow consistent processes. Katzer stated that staff members learned "they are not an island on their own. There are processes and procedures to follow. It got everyone collaborating more."

Based on the success of its SIF implementation, Liberty plans to integrate more applications into SIF in the future: specifically, the district plans to incorporate

Continued on page 8A ▶

▶ DISTRICT PROFILE

District: Liberty Public School District

Location: Liberty, Mo.—15 miles northeast of Kansas City

Student Enrollment: 8,700

Number of Schools: 14 schools: 8 elementary schools, 2 middle schools, 2 junior high schools, 2 high schools

Number of Employees: 600 teachers

Goals: Allow disparate systems to talk to each other without manual intervention

Results: Reduced data entry time; reduced troubleshooting time; improved library services; greater staff communication

▶ SIF SOLUTION

Date Planning Began: October 2001

Date of First Implementation: October 2002

Zone Integration Server: Edustructures

Systems Integrator: None

SIF Version: 1.5.1.1

Centralized Implementation: Yes

Number of Zones: 1

Location of SIF Agents: On the same servers as the applications

Number of Applications: 2—Pearson SASI 6.2 (student information), Follett Destiny 6.0 (library management)

Changes in Staffing: None

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▶ DISTRICT PROFILE

District: Naperville Community Unit School District 203

Location: Naperville, Ill.—26 miles west of Chicago

Student Enrollment: 19,000

Student Demographics: Primarily white; Chinese is largest minority; 5% on free and reduced meals; 6% mobility rate

Number of Schools: 21 schools: 14 elementary schools, 5 junior high schools, 2 high schools

Employees: 1,550 teachers; 2,500 total employees

Goals: Reduce redundant data entry across eight systems; reduce time spent synchronizing data

Results: Reduced data entry time by 65%; reduced troubleshooting time; increased opportunities for student data analysis

▶ SIF SOLUTION

Date Planning Began: 2004

Date of First Implementation: July 2005

Zone Integration Server: Computer Power Solutions of Illinois—SIF Connect 4.0

Systems Integrator: Integrity Technology Solutions

SIF Version: 1.5r1

Centralized Implementation: Yes

Number of Zones: 21 site-based zones

Location of SIF Agents: On the same servers as the applications

Number of Applications: 8—Maximus' SchoolMax 4.0 (student information), Parlant Technology's ParentLink 7.0 (automatic notification), Carter-Pertaine's Human Resources System, Versatrans Solution's VersaTrans RP 9.4 (transportation), SPSS Analytical Suite (data analysis), COMpanion Corp.'s Alexandria 5.51 (library management), Comalex's Café Terminal (food service), special-education management system to be determined

Changes in Staffing: None

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Horizon Software's food-service application, Microsoft's Active Directory, and a data warehouse. As Liberty officials evaluate new software applications in the future, they now will "require SIF certification," said Katzer.

By starting small and using existing applications, Liberty was able to make the transition with a minimum of risk and very little staff resistance, according to the study.

From more efficiency to greater achievement: SIF helps Naperville analyze student data

Naperville faced a problem common to many school districts: an inability to integrate widely dispersed data.

Three years ago, Naperville was struggling to manage data from eight disparate systems, and the time required for data entry at the start of the school year was particularly vexing. During the first month of school, six or seven employees had to perform data-entry tasks on a full-time basis: Their first two weeks were focused on new student enrollment, while the next two weeks were spent correcting typos and other errors.

The process to keep the data in these systems synchronized was extremely time-consuming; for example, when a new student entered the district in mid-year, it took a week to update the food-service system. Additionally, troubleshooting data errors proved difficult and inefficient. The IT staff had to check multiple applications to find the source of the error, and fixes needed to be made in all of the applications.

Prior to adopting a SIF solution, Naperville had made two attempts to address these problems. First, the district wrote interfaces between the systems that involved manual downloads, manipulation of data, and uploads into other systems. After a six-month effort, Naperville rejected this solution because it required too much monitoring by IT personnel. "The staff were tied to their chairs," said Tracy Oliver, manager of data operations.

The second attempt used Data Transformation Systems (DTS) packages to pass information among the applications. This was problematic because the DTS packages "broke" as new versions or updates of the software were introduced. If a data field changed because of an application upgrade, the DTS process failed and required reprogramming or manual intervention.

After examining SIF, Naperville officials discovered that a number of applications they already owned had corresponding SIF agents—thus lowering the cost to get started. District officials started their SIF implementation last July, beginning with two existing applications and gradually adding more capabilities as they installed new applications. The district also decided to work with a systems integrator, Integrity Technology Solutions, to "avoid the pitfalls" that can arise in data integration projects, Oliver said.

Naperville currently runs four applications on its SIF platform. District officials had planned to implement a data warehouse at the end of this school year and add three more applications—for food service, library management, and special-education tracking—next year.

The estimated cost for Naperville's project, which includes all planned software implementations through 2008, is \$271,000. Most of this cost comes from new functionality and new software applications that Naperville chose to add but weren't required for SIF success. The costs directly associated with SIF—the ZIS, SIF agents, and general SIF agent deployment—are \$51,000, or 19 percent of the total cost of the project, according to the report.

Naperville officials report that their SIF implementation has gone smoothly so far. For the 2005-2006 school year, data entry was significantly reduced. With a single point of data entry, troubleshooting the data became much easier and faster. There is now only one place to go to find and correct an error. "What previously took one week now takes a couple of hours," explained Oliver. These savings free up the IT staff for other projects.

One challenge to implementing SIF has been creating a solution for agents that do not share all the data required for the specified degree of integration. Oliver recommends that, if you're going to move forward with SIF, you should "carefully analyze when a vendor tells you they are SIF compliant. Review the source application to uncover any problems with the SIF messages." Naperville now asks two questions of every vendor: Are you SIF certified? And, what version of the SIF specification do you support?

With the interoperability afforded by SIF, Naperville is finding more ways to use applications that conform to SIF to address data analysis and broaden No Child Left Behind goals. Its SIF implementation is "becoming the messaging hub for everything in the district," noted Oliver. The district has been adding an easy-to-use interface, or "dashboard," so administrators and teachers can quickly and easily view student profiles. The next step will be to add local assessment data, survey data, perception data, and human-resources data and use analytical tools to help predict how students will do on high-stakes tests. The goal is to identify students "falling off the path" sooner, said Dave Chiszar, director of assessment, so the appropriate intervention can be provided.

Down the road, as a result of these measures, the district projects it will see growth in student performance. Naperville plans to use predictive analytics to "affect the money that is spent on intervention programs," noted Oliver. Faster reporting of assessment data and analysis to principals and teachers will enable assessment staff to focus on higher-level work. "The job will change from putting data together to understanding data," predicted Chiszar. As a result, the quality of the data analysis is expected to improve dramatically.

Rapid returns: Western Heights recovers costs through better reporting

Western Heights lies in the heart of Oklahoma City and serves 3,200 students from culturally diverse backgrounds. More than 70 percent of its students receive free or reduced-price meals, and there is a 40-percent mobility rate. Like many other districts across the country, Western Heights was challenged by the increasing demand for up-to-date infor-

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mation needed to manage the district. District officials identified and purchased the best software applications in each functional area; however, without interoperability, these systems provided limited benefits. Western Heights concluded that adopting SIF as the standard for its technology solutions would empower stakeholders at all levels of the organization to improve decision-making and, ultimately, the quality of education.

In 2003, Western Heights began its SIF implementation with a "proof of concept" project focused on its SIS and one other application. After a year, the district began integrating its nutrition, library, and gradebook programs into SIF and continued to add applications in a staged manner, ensuring stability before adding more each year. Western Heights worked closely with Mizuni, a K-12 SIF integrator, to build custom agents, the ZIS, and advanced reports.

From 2002 to 2005, the district reportedly spent more than \$1 million on

new applications, consulting, and implementation to deploy its integrated SIF solution. Western Heights chose to purchase new, "best-of-breed" software that was SIF certified, for a total cost of \$398,000. The district then added a data warehouse and custom reporting tools. Implementing these tools required significant help from consultants to adapt the district's workflow and make other required changes. Thus, the data warehouse, reporting tools, and consulting cost the district an additional \$573,000. The \$34,000 that

Western Heights spent in direct SIF implementation costs—the ZIS, SIF agents, and general SIF agent deployment—marked the smallest category in terms of dollars spent on the solution. Western Heights now spends roughly \$95,000 annually to maintain these systems.

Western Heights used eRate funds to buy the required hardware: 10 servers that reside at the district level, one for each application. No additional staff members were needed to support this implementation.

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▶ DISTRICT PROFILE

District: Western Heights Public School District #41

Location: Oklahoma City, Okla.

Student Enrollment: 3,200

Student Demographics: Culturally diverse; 70% free and reduced meals; 40% mobility rate

Number of Schools: 6 schools: 4 elementary schools, 1 middle school, 1 high school

Employees: 275 teachers; 470 total employees

Goals: Put valuable information in the hands of stakeholders—principals, teachers, and parents

Results: Increased student achievement more than 30%; generated \$1.3 million in additional federal and state funding over the last 18 months; improved accuracy, consistency, and timeliness of student data

▶ SIF SOLUTION

Date Planning Began: 2001

Date of First Implementation: 2003

Zone Integration Server: Mizuni

Systems Integrator: Mizuni

Number of Applications: 9—Chancery SMS (student information), Data Futures' LunchBox (child nutrition), Visual SI's RoutePointe (transportation), Follett Destiny (library management), Excelsior Pinnacle (gradebook), Renaissance Learning's Accelerated Reader (instructional support), Scantron's Achievement and Performance Series (assessment), Computer Power Solutions of Illinois' Oklahoma State SIS; Mizuni's Data Warehouse

Changes in Staffing: Eliminated two IT staff positions (a result of increased efficiencies); added four teacher training positions



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tion; in fact, by integrating its various administrative programs, Western Heights reportedly was able to reduce its IT staff by two full-time employees, so four people now manage its systems. To handle teacher training, Western Heights uses a train-the-trainer model. The district hired four former teachers whose full-time responsibility is to train teachers on the new systems and processes, and it uses federal funding to support these positions.

Because Western Heights was an early adopter of SIF, the implementation presented some unique challenges. The process was “hard to get going,” said Joe Kitchens, the district’s superintendent.

“There was not much ground broken five years ago. There was so much work to be done, which slowed down the process.”

The implementation was not only a technical challenge, but also an exercise in initiating change. Administrators and principals met twice per month during the entire first year of the project to establish consistent data rules, codes, and processes. The end result was a revision of the way school operations were conducted.

The district has found its work worthwhile. By establishing a central registration for all new students, Western Heights now has a more accurate count of its student population, which—in turn—has led to an increase of about \$1.3 million in state and federal funding over the last 18 months.

The district has seen an increase in state aid as a direct result of its more accurate and reliable reporting. For example, Western Heights has been able to identify gifted students more effectively. Three years ago, there were 265 students who were identified as entitled to gifted services. Now that the district’s data systems and synthesized reports more accurately reflect who meets these test-score criteria, 80 to 90 additional students have been identified as gifted. At \$1,000 per gifted student, this has resulted in an increase in state funding of \$80,000 to \$90,000.

Western Heights also has experienced an increase in federal funding as a result of the project. District officials say they have received \$750,000 in additional fund-

ing each year from their more accurate tracking of students who are eligible for free or reduced-price meals. Before SIF, Western Heights observed a significant decrease in enrollment in the federal school lunch program from its elementary schools to its high school: enrollment was 50 percent at the elementary schools, 40 percent at the middle school, and 30 percent at the high school. This drop was unexpected, because the same elementary students fed into the district’s middle and high school—so the percentage should have been consistent from one grade level to the next. Now, with its more accurate data and the enhanced reporting capabilities of the Mizuni ZIS, Western Heights is able to identify and update its information when a family’s meal status changes or when there is a discrepancy in meal status between siblings. All of the district’s schools now maintain a similar and consistent meal status percentage of 70 to 75 percent.

The percentage of students who are eligible for free or reduced-price lunches qualifies the district for additional Title I funds for disadvantaged students. The same Title I percentages also translate into eligibility for several other federally funded programs, too.

The increase in district funding that has resulted from its more accurate tracking of student information has given Western Heights the opportunity to invest in new programs. Western Heights has been able to move to full-day kindergarten and implement a full-day early childhood education program as well. While it’s too early to see the results of these programs on student achievement, Kitchens is confident that the investment in these programs will pay off, too.

‘A hard look’

The three districts studied found that SIF implementations require a significant investment in time, resources, training, and personnel. “With the exception of the janitorial staff, nobody in the district is doing their job the way they were three years ago,” said Lisa McLaughlin, assistant superintendent for Western Heights.

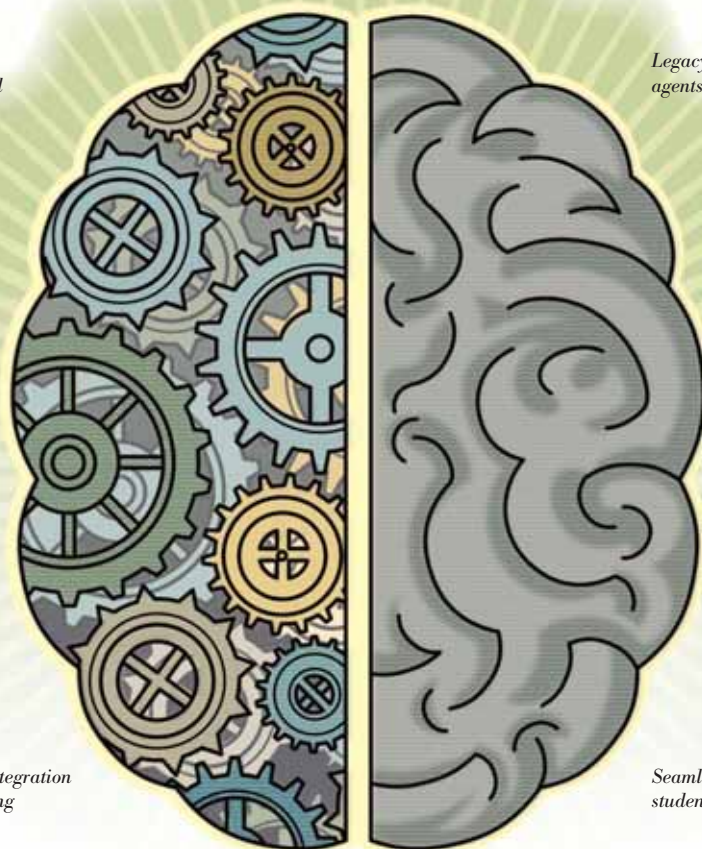
Such dramatic changes are becoming more common among school districts as they respond to more competitive pressures. In return for their investments in SIF technology, however, districts are improving the efficiency of their computer systems, more effectively using their personnel, enhancing the learning process, and reaping greater funding.

Based on the success in the Liberty Public School District, Katzer concluded: “I would encourage other districts to take a hard look at SIF.”

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Liberty Public School District
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Naperville Community Unit School District 203
<http://www.naperville203.org>

Western Heights Public Schools
<http://www.westernheights.k12.ok.us>

▶ SIF goes international

Schools Interoperability Framework Association teams up with leading ed-tech groups to ease software interoperability worldwide

The Schools Interoperability Framework Association (SIFA) has reached agreements with three leading international ed-tech organizations to help ease the integration of educational software programs in schools around the world.

SIFA will collaborate with the United Kingdom's BECTA, Europe's European Schoolnet, and Australia's education.au limited. Collectively, these organizations will work together to "lead the technical development of a world-class specification and certification program to enable data interoperability for education," SIFA said.

The three international agencies will work with SIFA in their respective countries to convene education stakeholders, identify their collective data needs, and develop solutions for data interoperability—from the school to the government level.

"All countries are coming to grips with ... the need for high-quality data to measure efficiencies and how schools are impacting the learning of students," said Larry Fruth, SIFA's executive director. "The goal of bringing on international partners with SIFA is to help identify the correct local players in the education space and assist in gap analysis between their systems [and SIF]."

He added: "SIFA does recognize that there will be local data sets that are specific to each nation, but in trying to minimize them as much as possible, we could enable data movement globally." Currently, there are "localizations" of the current SIF specification underway in both the U.K. and Australia, Fruth said.

The first step in SIFA's international partnerships is to have local leaders "engage their constituents, identify their needs, and then see how the SIF specification can be modified to support their work," Fruth said. Ideally, he said, the collaborations eventually will result in a core specification applicable across the globe, a group of localized data sets, and an international certification program to test against.

The main goal of SIFA's international activities is to "not [have to] reinvent the wheel in specification development," Fruth said. "We want to share our successes and challenges with others, develop a better specification and certification program, and open up opportunities for collaboration across the globe."

He added: "With the current SIF specification focused on student administration data, our international partners have a great head start on teaching and learning specification usage—and we want to learn from them as our specification

evolves to support that activity."

For current and future SIFA members, these agreements will give them access to leaders in ed-tech use and policy development across the globe, expand market opportunities, and provide access to best-practice examples from international learning initiatives.

"These agreements benefit SIFA members by providing pilot opportunities and international exposure," said Fruth. "Collectively, we need to leverage each

other's work—without re-inventing the wheel in data interoperability issues—and provide real solutions for stakeholders across the globe."

BECTA (the British Educational Communications and Technology Agency) is the U.K.'s lead partner in the development and delivery of ed-tech strategies and leadership for that nation's schools. European Schoolnet is an international partnership of more than 26 European Ministries of Education; its

mission is to foster technical innovation and interoperability through common standards, with the goal of enabling closer collaboration among European educational systems to improve efficiency and cost-effectiveness. Education.au limited is a national nonprofit agency owned by Australia's education and training ministers. It builds and maintains national online information services and products that meet the needs of Australia's education and training sectors.

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▶ LINKS

BECTA
<http://www.becta.org.uk>

European Schoolnet
<http://www.eun.org>

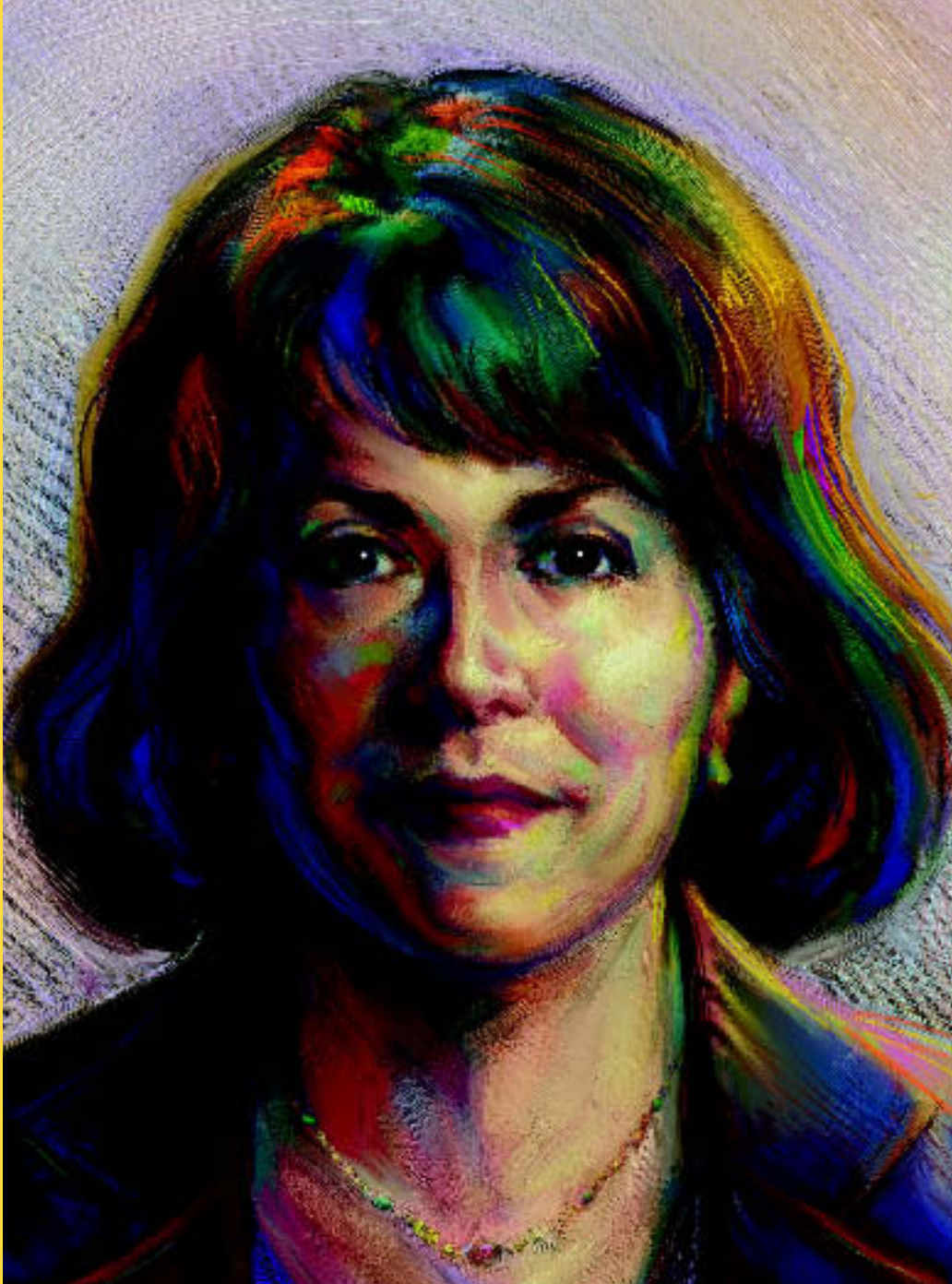
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▶ SIF 2.0 promises to ease data integration

New spec includes support for school calendars, discipline information, and more

By Paul Korzeniowski

Making disparate software programs work together to exchange information is a constant challenge for educators. Often, educators find that critical student information is housed in a variety of applications that cannot easily exchange these data. While data integration is possible, it is usually time-consuming, ineffective, and expensive.

The Schools Interoperability Framework (SIF) promises to ease the development work needed to move data from place to place. Designed by educators and software companies that understand the current inefficiencies, as well as the potential benefits—more robust reporting, more efficient use of resources, more effective courses—that are possible with simpler data integration in schools, the SIF specification is now being used by hundreds of districts across the country. Other districts can realize these benefits, too, by deploying SIF-compliant products.

The first step toward reaching that goal is separating what SIF is from what it is not. What it is not is a commercial product. Instead, it is a set of data specifications that outline how information should flow among diverse applications in K-12 computing environments. The specs center on two items: a set of common data definitions, so applications understand the information they are working with, and a set of rules for how data can be shared, so data can be transferred from one system to another.

The data definitions, called “data objects,” include information commonly generated in educational applications—for example, a student’s name, address, and telephone number are part of the “StudentPersonal” data object. The data interchange rules are based on open and widely used standards and are not tied to particular operating systems, network equipment, or application platforms. As a result, schools are able to implement SIF regardless of what computers, software, or networks they have.

Because applications are constantly being enhanced and the industry is always concocting new methods of processing information, SIF is dynamic and has been evolving continually since its initial inception in the spring of 2003. Much like software programs, SIF comes in various releases, and a series of three numbers

illustrate its different versions. In release 1.5r1, the first number indicates a major release: a version of SIF with significantly new functionality stemming from a substantial change to SIF messaging rules or data objects. The second number (5 in the example) points to a minor release version (one with incremental new functionality), and the last item (r1 in the example) indicates that this is a revision, or “fix,” which means there have been some minor text changes to the documentation associated with the release, but no changes to the specification’s functionality.

Because the process is dynamic, the SIF community has to decide when to take a snapshot of the standard, so vendors can design and users can buy SIF-compliant products. Usually, the snapshots are completed every 12 to 24 months. To date, two versions of SIF have been completed, and a third looms on the horizon.

The first version, SIF 1.1, was unveiled in March 2003. This version focused on common information stored in applications, such as student information systems. Enhancements included in SIF 1.5r1, debuted in March 2004, featured expanded coverage of food-service, human-resource, and financial software, as well as the ability to track individual students and their progress over time—even if they move from district to district.

The SIF Association (SIFA) plans another major release of SIF this summer. Some of the more notable changes with version 2.0 are support for:

- Expanded assessment measurements;
- Updated objects;
- Calendar information;
- References to NCEES (National Center for Education Statistics) code sets;
- Discipline information;
- More gradebook functionality;
- Period-by-period attendance;
- eTranscript functionality (the electronic exchange of student records); and
- Enhanced reporting infrastructure.

In addition, the standard includes two new components: organizational profiles and functional profiles. “The profiles are groupings of common data elements, so schools can collect specific types of data more easily,” said Larry Fruth, SIFA’s executive director. An organizational profile could include items that are required in a

certain state, for example—such as test score results or funding data. A functional profile would outline items that are needed by a particular group of students—say, students with IEPs (individualized education plans), or those with various learning disabilities who need special attention.

While outlining standard specifications can be helpful, users and vendors need more than just a list of specs to reap the potential benefits of SIF—they need to be sure that different vendors’ products can interoperate. Toward this end, SIFA has developed a certification program to confirm that software programs do, indeed, adhere to SIF rules and object definitions.

The process begins with vendors completing a Conformance Statement Questionnaire, a declaration describing how their products meet the SIF requirements. This form includes a list of each of the SIF data objects supported by the application and the manner in which it is supported. Because SIF outlines a broad range of functionalities, vendors are free to pick and choose elements of the standard their software will support. In some cases, it makes sense for them to support all of the data objects; in others, a subset is more appropriate. In either case, vendors can say their products conform to the specification.

Vendors simply saying their products conform to SIF might not be enough to convince educators to deploy them. As a result, SIFA has contracted with the Open Group, an ad-hoc certification organization, to serve as the SIF Certification Authority. The Open Group oversees the SIF Certification Program, which involves a series of formal tests that validate whether software applications properly implement the SIF specification.

A software program that successfully completes this testing process will be able to display the “SIF Certified” logo on its package, web site, and in promotional literature. As of press time, “approximately 75 vendors have gone through the certification process,” said Mark Reichert, SIFA’s chief technology officer. A list of SIF-certified products appears on the Open Group’s web site (see link at right).

Certification is important for both educators and software companies. With it, educators can have confidence that the “SIF Certified” applications they purchase will

have some data objects in common and will route information in a similar manner. For software companies, the certification process verifies that their applications will be able to share information properly with software programs from other companies.

While helpful, SIF certification is not a panacea and does not mean that all SIF products will interoperate out of the box. There are a few other items that customers need to be aware of. First, software programs are certified only to a particular release of the SIF specification, so a user might need to tweak one product that has been certified for SIF 1.1 to work with another product that has been certified for SIF 1.5.r1.

Currently, most vendors have enhanced their products to conform to SIF 1.5r1, while about a dozen still offer SIF 1.1 compliance. Because SIF 2.0 is just being completed, two steps are still needed before any products will be certified as 2.0 compliant: A conformance test needs to be developed, and then vendors need to pass their products through it. These steps are expected to be completed by the fall.

The second issue hindering interoperability revolves around vendor decisions. Because vendors may support various data elements, the level of interoperability among their products will vary. Consequently, users can expect to perform at least some customization before SIF-compliant products fully interoperate.

All of these elements were put in place to help organizations implement SIF products. Once school leaders understand what SIF offers, they can help their schools reap its benefits.

▶ LINKS

SIF Specification
<http://www.sifinfo.org/sif-specification.asp>

SIF Certification
<http://www.sifinfo.org/sif-certification.asp>

Open Group
<http://www.opengroup.org>

SIF-certified products
http://www.opengroup.org/sif/cert/cert_prodlist.tpl

▶ Glossary of SIF-related terms

SIF specification—A technical blueprint for school software, designed for technology providers and educators. It manages data within the school environment and enables diverse applications to interact and share data in real time.

SIFA—Short for Schools Interoperability Framework Association, a nonprofit membership group that is working with vendors and end-users to define data movement in the education space.

SIF certification—Applications that are SIF-certified have been tested to ensure they adhere to the SIF specification and can share data with other SIF-certified programs.

ZIS—Short for Zone Integration Server, the central communications hub for a SIF implementation. A ZIS is actually software, not

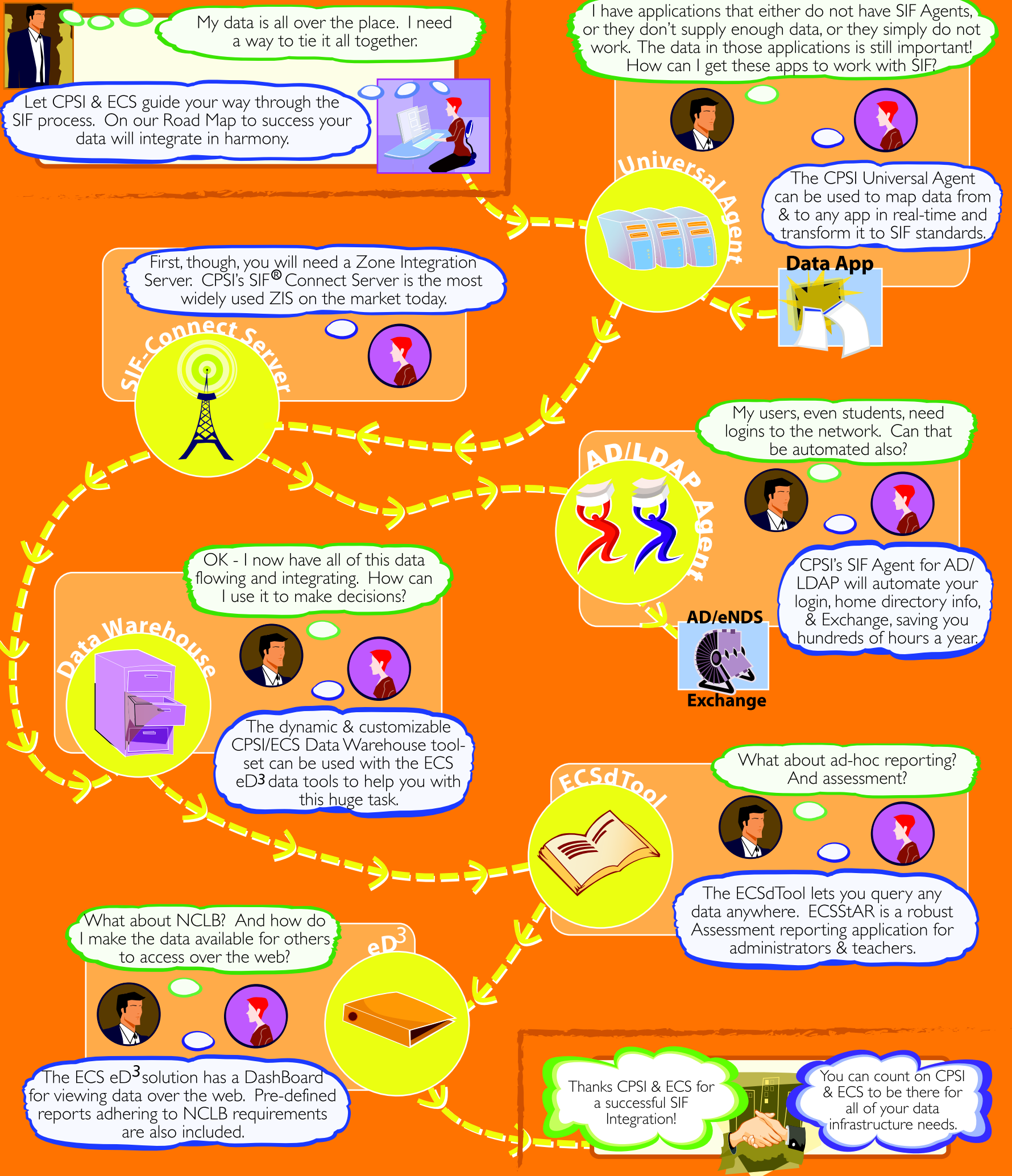
hardware. It acts as the “traffic cop” responsible for routing messages and controlling access to information.

SIF agent—Software that acts as a liaison between the primary software application, such as a student information system, and the ZIS. SIF agents are responsible for communicating data intelligibly with the ZIS.

Universal agent—A tool for mapping database structures to the SIF specification. A universal agent is used with legacy systems where a certified SIF agent is not available.

Custom agent—A SIF agent provided by an application vendor, developed with and for a specific application based on its business rules and database structure.

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▶ SIF takes a lesson in learning

Demand for data fuels SIF's expansion from an administrative to an instructional solution

By Paul Korzeniowski

With the strict accountability demands ushered in under the federal No Child Left Behind Act (NCLB), schools have begun using technology to improve the way teachers monitor student performance, and states now require better reporting of student and school data. These trends have fueled an expansion of the SIF specification both horizontally and vertically: from administrative software such as transportation, food service, and student information systems, to instructional programs for teaching math and reading; and from a district-wide to a statewide solution.

"Many teachers are now outfitted with tools so they can more easily collect and consolidate grading information," said Larry Fruth, executive director of the Schools Interoperability Framework Association (SIFA). Initially, these applications operated in an ad-hoc fashion, but vendors increasingly have been integrating their products, so schools now can deploy learning management systems that collect, present, and consolidate student achievement data. These systems not only walk students through the various exercises; they also collect response data from periodic assessments and provide various graphic elements that outline how students are performing.

SIF began as an administrative solution, primarily for eliminating the need to enter data into student information, transportation, food service, library automation, and other software systems independently of each other—but as instructional programs increasingly integrate assessment and data-management tools and capabilities, a growing number of classroom applications now are SIF-certified, too. SIFA members now include such makers of instructional software as CompassLearning, PLATO Learning, Renaissance Learning, Riverdeep, and Scholastic.

By using web-based interfaces, schools are able to share gradebook information from these instructional programs with a growing number of individuals, and parents can monitor the

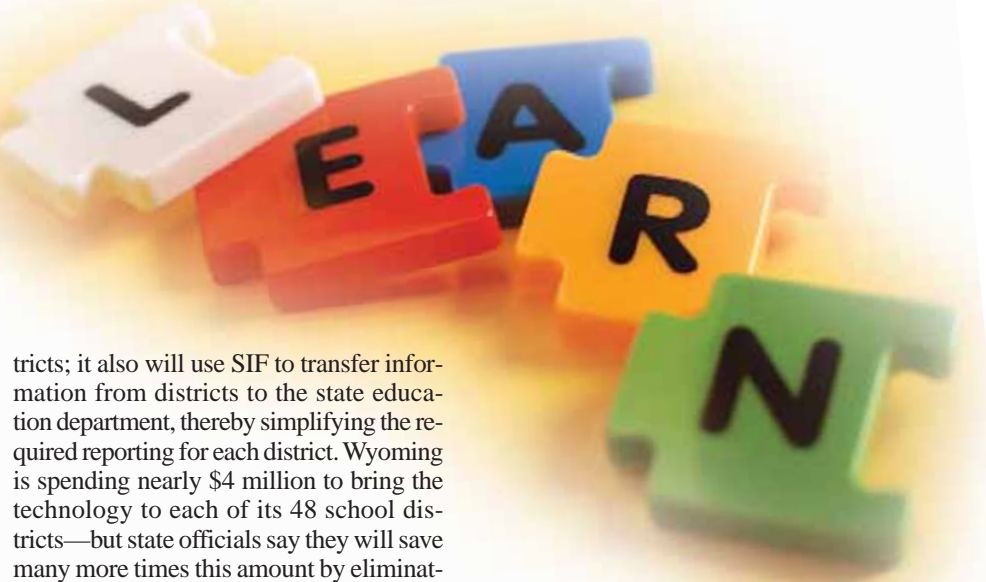
progress of their children online. Administrators also have access to such information, and this advancement comes at a fortuitous time: Throughout the country, students from elementary school through high school are being tested, and the results might determine, for example, whether a school will remain open or how much federal funding it will receive. Consequently, educators are spending more time than ever collecting and analyzing student achievement data.

These data used to be collected and examined mainly locally, but now—for a variety of reasons—they must be more widely shared and disseminated. States have been pushing new initiatives that facilitate the sharing of student data from district to district if a pupil moves. Also, states need to collect and examine achievement data from local districts to comply with NCLB requirements. While states theoretically could build a central system to collect this information, in most cases this approach is unworkable, because individual districts use such a wide variety of software products. A more efficient option would be to use common data interchange standards, such as SIF, that would enable education officials to move information easily among local, district, and state applications.

"A few years ago, it became clear that SIF had to be extended so local districts could transfer data to state and federal systems," noted Jill Abbott, learning strategist at SIFA. As a result, a growing number of states are now implementing statewide SIF projects to ease the sharing and reporting of data from their local districts.

One of the most ambitious of these is Wyoming, which began working last year to create the Wyoming Integrated Statewide Education (WISE) Data System. Any time a student changes schools or moves to a new district within the state, that student's entire history of academic information will be able to be shared instantly with his or her new school via the WISE Data System, allowing for a seamless transition.

Wyoming's system not only will allow schools to share information across dis-



tricts; it also will use SIF to transfer information from districts to the state education department, thereby simplifying the required reporting for each district. Wyoming is spending nearly \$4 million to bring the technology to each of its 48 school districts—but state officials say they will save many more times this amount by eliminating the need for school staff members to re-enter data into multiple software applications and reports.

The five-year project is being led by ESP Solutions Group, a K-12 data systems integrator, in conjunction with its partners, Edustructures and eScholar. The system will consist of a next-generation state reporting system from ESP; eScholar's SIF-based unique identifier system, Uniq-ID; Edustructure's Zone Integrated Servers; and the installation and configuration of up to 10 SIF agents (connection points) for every district.

Wyoming is one of the first states to embark on a statewide SIF implementation—but it's not the only one. South Carolina also is implementing a statewide system for the vertical reporting of K-12 education data, and Virginia and Pennsylvania are among the other states to explore SIF implementations (see sidebar, below).

The latest versions of SIF are helping state and school district officials capture, share, analyze, and report on student achievement data in real time. By adopting SIF, states and school districts can alter the dynamics of student achievement data. For the first time, all stakeholders in a child's education have access to meaningful information and are able to intervene in a more proactive manner, thereby closing the gaps in achievement and boosting academic success.

As these new information systems are being put into place, school leaders are

trying to develop a culture where all decisions surrounding the learning environment—from district operations, to classroom instruction, to an individual student's learning plan—are based on facts, not instinct. With more information available to them, administrators can build more targeted budgets, measure the effectiveness of new curriculum programs, anticipate future program requirements, recruit and retain the best teachers, and follow the progress of individual students. Teachers, meanwhile, can integrate technology so it positively impacts their curriculum, modify their lesson plans to meet the varied needs of individual students more easily, and link classroom materials and assessments with state standards.

These changes are transforming schools into more effective institutions. But they resonate beyond the classroom as well. Schools are able to better prepare students for college and the work force. School officials are able to develop and manage complex budgets more effectively. Educators can better provide students with safe and efficient bus transportation, nutritious food, up-to-date libraries, cutting-edge technology resources, and secure campus facilities. In essence, school officials have moved from simply dabbling with technology as a supplemental educational tool to using it to help them run their businesses better.

▶ Stating the case for SIF

State education departments join SIF's membership organization

Pennsylvania recently became the second state in the nation to join the Schools Interoperability Framework Association (SIFA), taking advantage of the group's state bulk membership program to extend the benefits of SIFA membership to its local districts.

Under the agreement, SIFA has extended memberships to all Intermediate Units across Pennsylvania, and through them, to all local education agencies in the state. The memberships entitle Pennsylvania's school systems to tools and resources to help them implement SIF, allowing them to share information seamlessly among different offices and programs and update information in these programs simultaneously, rather than in a costly, piecemeal fashion. The Pennsylvania Department of Education also will embark on a statewide SIF implementation project to facilitate the reporting of school district information to state education officials.

"Each software company develops its own way of organizing and distributing information in their programs," said Michael Golden, Pennsylvania's deputy secretary for information and educational technology. "This has made it hard for software programs from different companies to work together ... Lack of data sharing has often meant that different parts of the same school or district had to waste time

re-entering the same data. It also has made maintaining consistent data across different programs difficult. SIF will allow us to fix these problems."

In teaming up with SIFA, Pennsylvania has followed Virginia's lead; Virginia became the first state SIFA member in December 2004. Virginia's partnership with SIFA includes memberships for all 132 school divisions within the state, as well as a pilot SIF project in the Hanover County Public Schools. This pilot project will serve as a model for expansion of SIF into other Virginia school divisions.

"Our statewide membership in SIFA serves to create awareness among our divisions and their vendors of our support for SIFA and encourages their participation in the development and adoption of this exciting new technology," said Bethann Canada, director of education information management for the Virginia Department of Education.

SIFA's state bulk membership program gives state education departments an opportunity to extend the benefits of SIFA membership—including access to exclusive resources for help in implementing SIF—to their local districts at a reduced cost. For more information, state education department officials should contact SIFA Executive Director Larry Fruth at lfruth@sifinfo.org.

▶ SIFA offers courses to ease implementation

New online and face-to-face classes aim to help users understand SIF technology

By Paul Korzeniowski

To help SIF gain more traction, the Schools Interoperability Framework Association (SIFA) has developed classes designed to help individuals understand its basic—as well as its more technical—aspects. The courses not only aid interested individuals in understanding SIF principles, but they also might count toward participants' professional development work.

SIF is a complex set of blueprints designed so educators can maximize use of their computer applications by facilitating data interchanges. At press time, SIFA was in the final stages of completing two classes that will be offered by the group's SIFA University. Designed to enable vendors and educational institutions to develop the expertise needed to successfully deploy products that conform to the standard, the first two courses were expected to be available starting in mid-June.

The first class, dubbed Basic SIF Theory, is geared to a general audience and provides participants with an understanding of the specification. "Because SIF is so complex and touches upon so many different areas, we saw a need for a basic course that outlines what SIF entails for school administrators," said Laurie A. Collins, SIFA project strategist. The class starts off with an overview of the standard and then explains what the specification is, its terminology, and the history of SIF and SIFA. Next, the class focuses on SIF's architectural building blocks: agents, data objects, message types, security, zones, and Zone Integration Servers.

The class then shifts to topics that would help educators and vendors take advantage of SIF. SIFA has worked with the Open Group to craft a certification program to make it more likely that different vendors' products will interoperate. The first step toward certification occurs when a vendor completes a Conformance Statement Questionnaire; its purpose and the certification process are outlined. The last topic centers on what users and vendors need to be aware of as they go through a Request for Proposal process and transition from talking about SIF to deploying compliant products.

The second class, Advanced SIF Theory, has a more technical bent and is designed for data administrators, data center technicians, integrators, and agent designers. This class concentrates on topics such as message types, message movement, and graphic user interface (GUI) design. Participants learn how to register and synchronize SIF data. Security is an area of emphasis, and access control, certificates, authentication, and message blocking functions are explained. Practical details such as best practices, object design, and the use of multiple agents and multiple zones also are discussed.

These classes are the first in a series. SIFA has three future courses planned for its SIFA University: Data Quality and/or Integrity, Implementation Project Planning, and SIF Network and Architecture Planning.

All of the courses are available either online or in a classroom with an instructor. "The students will be able to work at their own pace and choose the modality that best suits them," noted SIFA's Collins.

In several states, educators are required by law to spend a number of hours each year on professional development. SIFA is working with state education departments to recognize its courses for professional development credits in conjunction with their state requirements.

"Our goal is to make the classes as beneficial as possible to attendees," said Collins.

SIFA has partnered with Pennsylvania's Central Susquehanna Intermediate Unit to assist in the development and administration of its courses. "We have engaged the leading subject matter experts on SIF to assist in the development of comprehensive curriculum," Collins said.

Registration for the courses is available from the home page of SIFA's web site. SIFA members will have some seats to the

courses included in their membership fee, but non-members will have access to the courses for a price of \$200 per course. The courses are designed to take roughly 25 to 30 hours to complete.

▶ LINKS

Schools Interoperability Framework Association
<http://www.sifinfo.org>













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▶ Understanding SIF

Answers to the most frequently asked questions

What is the Schools Interoperability Framework Association (SIFA)?

SIFA is a nonprofit organization that brings together vendors, government agencies, state departments of education, and other industry leaders to develop a specification that ensures that primary and secondary (K-12) instructional and administrative software applications can share information seamlessly. SIF is not a product, but rather an industry-supported technical blueprint for K-12 software that will enable diverse applications to interact and share data now and in the future.

Who is involved in the SIFA initiative?

SIFA is comprised of vendors, schools, state departments of education, the U.S. Department of Education, various education associations, and other agencies. For a complete list of members as of press time, see page 21A of this report.

What is the SIF specification?

The SIF specification is a set of documents developed by SIFA work groups, committees, and task forces comprised primarily of software engineers from educational software companies. These documents articulate a set of common definitions for school data and a set of rules for how these data can be shared. The common data definitions are called data objects. Data objects cover many items that are involved in schools. For example, a student's name, address, and phone number are part of the "StudentPersonal" data object. Having different software programs understand this common definition of a student makes it possible for them to share this information properly. There are 89 data objects currently defined. Additional data objects will be defined as the specification matures.

In addition to the data objects themselves, the SIF specification also defines the rules for how software programs can send these data objects to each other. This set of rules is called the "infrastructure" and uses ways of sending messages that are built on the types of technology utilized by the internet. By using open and commonly available means to transport these data objects, SIF ensures that all vendors will be able to use the SIF framework and that all school systems will be able to implement it regardless of what kinds of computers or networks they have. Ensuring that SIFA is vendor-neutral and platform-independent is an important guiding principal of SIFA and a foundation for the long-term viability of the SIF specification.

How will schools benefit from SIF?

The goal of SIF is to help educators maximize their instructional and administrative software investments and make more efficient use of staff and faculty time. Educators constantly lament that their financial management, administration, library, transportation routing, and cafeteria applications do not work together. SIF aims to solve these problems. By using SIF-certified applications, schools can dramatically reduce redundant data entry and spend more time on teaching.

On what language is the SIF specification based?

The SIF specification is based on the W3C-endorsed standard Extensible Markup Language (XML). It defines common data formats and high-level rules of interaction and architecture, but it is not linked to a particular operating system or platform. SIFA encourages the development of additional implementation guides for other software architectures as long as they conform to the specification.

There have been many initiatives and collaborations formed in the past to address technical issues and interoperability standards in education—for example, SPEEDE/ExPRESS.

Why is there a need for yet another one?

SIFA is responding to the needs of educators who continue to grapple with interoperability issues. For example, educators need to produce reports using data from multiple applications and deliver those reports over the internet securely. These are the kinds of issues that SIFA aims to address. Whenever possible, SIFA will use the SPEEDE/ExPRESS specifications without reinventing definitions of common attributes like codes for gender, ethnicity, and grades.

How can educators ensure that the software they buy has been developed according to the SIF specification?

SIFA has established a certification program that provides third-party validation for all products developed using the SIF specification. Each product that is SIF-certified uses a SIFA Certification logo. To find out more about the SIFA Certification program, visit the Open Group web site (<http://www.opengroup.org/sif/cert>). For a complete list of SIF-certified applications, visit http://www.opengroup.org/sif/cert/cert_prodlst.tpl.



In addition, SIFA has prepared suggested Request for Proposals (RFP) language for schools and districts to use when purchasing software to ensure that they receive SIF-certified applications and are working with SIFA vendor members. To download this sample RFP language, go to <http://www.sifinfo.org/sifcertification.asp#5>.

What are the SIFA Work Groups?

There are two types of SIFA work groups: technical and support. The technical work groups are designated by school function. They include data warehousing, food services, gradebook, HR/finance, information management, infrastructure, library automation, student information services, and transportation. The support task force and committees are designed to assist the groups served by SIFA. These include certification testing, implementation, and marketing.

How can vendors join SIFA?

Vendors may join the association by filling out a secure online application (<http://www.sifinfo.org/vendor-get-started.asp>). SIFA members must sign an agreement that encourages them to participate in working groups, task forces, meetings, and conference calls. They also must pay a sliding-scale membership fee that is based on yearly revenues. This fee starts at \$4,000 for companies with gross annual revenues of less than \$5 million and ranges up to \$27,000 for vendors with gross annual revenues of \$1 billion or more.

How can schools or districts get involved?

There are three ways for schools to become involved with SIF: (1) Join SIFA and sit on work groups. Then, influence and vote on SIF specifications as they are being developed. (2) Require SIF-certified products in your RFPs and buying processes. (3) Stay abreast of which companies are developing products to be SIF-certified.

There are two levels of school or district membership in SIFA, and school leaders may choose either one when joining the association (<http://www.sifinfo.org/school-get-started.asp>). Voting membership entitles you to have a voice and vote on the SIF specification, members of the SIFA Board of Directors, Technical Board at-large positions, and other issues concerning the association. Non-voting members enjoy all of the privileges of members (including serving on work groups, committees, and task forces), but they cannot vote. The membership fee is \$1,000 for voting members and \$500 for non-voting members.

What are the benefits of SIFA membership?

1. A voice and a vote in the association.
2. Access to resources available exclusively on the SIFA Community of Practice web site.
3. Influence on the future development of SIF specifications.
4. Support for implementing SIF in your district or state.
5. A discount on registration for SIFA Quarterly End User Meetings and Developers Camps.
6. The opportunity to join any SIFA working group or task force.
7. The chance to network with vendors and end users at meetings and on conference calls.
8. Your organization's name and web site will be listed on the SIFA web site.
9. Becoming part of the ongoing collaborative community for data interoperability.

If you have any questions about SIFA membership, contact Alison Pruitt, Membership Coordinator, at (202) 789-4460 or APruitt@sifinfo.org.

▶ SUPPLEMENT PARTNERS



illuminating student information

For the past 20 years, **aal** (The Administrative Assistants Ltd.) of Ontario, Canada, has worked with the educational community to develop software that helps educators and administrators focus on improving student results.

Recognized as one of the most powerful, richly featured, web-based student information systems available today, aal's eSIS has been implemented in more than 7,000 schools. eSIS Version 7.0 and higher and its SIF agent have been certified as SIF compliant, enabling other applications to integrate with eSIS for overall additional functionality.

(800) 668-8486

<http://www.aalsolutions.com>

See aal's ad on page 20A



Century Consultants Ltd., of Lakewood, N.J., has provided K-12 student information management software to a wide range of school districts since 1978. On May 15, Century announced that Connecticut's Stamford Public Schools has implemented the company's SIF-certified Star_Base School Suite—a true web-based student data management system—to manage and maintain all student, business, and curriculum information as part of a new district-wide technology initiative. Stamford Public Schools, with 20 schools and more than 15,000 students, is the first district in Connecticut to implement SIF standards—and the fact that Star_Base is SIF-certified weighed heavily in the district's decision.

"We conducted an extensive search to determine the best student information system for our district," said Lori Fuda, Stamford's manager of Student Information Systems. "What appealed to us most about Century Consultants' Star_Base was its ability to centralize data for grades, attendance, report cards, and transcripts, as well as the system's class period attendance and scheduling module. The solution is SIF-certified and, moving forward, we will require all future software implemented in the district that needs to store student information to be SIF-certified."

(800) 852-2566

<http://www.centuryltd.com>

See the Century Consultants ad on page 17A



Computer Power Solutions of Illinois (CPSI), a leading K-12 data and network integrator, has teamed up with Enterprises Computing Services Inc. (ECS) of Woodstock, Ga., to provide a complete, SIF-certified data integration and warehousing solution for school districts and state education agencies.

CPSI is the developer of the SIF-Connect Universal Suite, which is SIF-certified for all 89 SIF objects. The suite includes a Zone Integration Server, data warehouse, and Identity Manager, as well as a group of ETL (extract, transform, and load) tools that provide SIF agent capabilities to any new or legacy application database—allowing for the seamless collection of data between existing applications and any new data warehouse.

ECS brings years of experience in the collection of state education data to the collaboration. The company's eD3 data warehousing solution provides dis-

tricts with a comprehensive set of tools to streamline complex administrative functions and support the decision-making process. It includes a master data warehouse database, entry portal, data analysis and reporting tools, performance metrics, and a Unique ID Generator for statewide implementations.

The combined solutions of both companies create what they call one of "the most comprehensive, SIF-certified solutions on the market yet" for extracting, storing, and analyzing student and school district information.

(800) 659-8240

<http://www.vcasel.com>

See the CPSI ad on page 15A



Edustructures is a recognized leader in SIF integration solutions for K-12 education. The company's SIFWorks integration platform is the foundation for statewide SIF implementations in South Carolina, Virginia, and Wyoming. The SIFWorks platform includes an Enterprise Zone Integration Server (ZIS) that runs on all popular operating systems, requires no third-party database or messaging components, and supports all versions of the SIF specification. Edustructures also offers SIF agents for Pearson School Systems' SASI student information system, Follett Software's Destiny and Circulation Plus library management systems, the Nutrikids Point of Sale food service system, and VersaTrans Routing & Planning transportation software.

(801) 858-0066

<http://www.edustructures.com>

See Edustructures' ad on page 23A



eScholar, a leader in K-12 longitudinal data systems, provides data management, analysis, and reporting solutions for tracking and improving student achievement. The eScholar Complete Data Warehouse is a comprehensive solution for compiling, analyzing, and reporting on thousands of data elements. The company's Uniq-ID System is being used by the Wyoming Department of Education to generate, assign, and locate statewide unique student identifiers. eScholar, which plays key roles in the Schools Interoperability Framework Association's Data Warehousing Working Group and Vertical Reporting Task Force, enables school districts and state education agencies to fully customize a solution to meet their own requirements, while maintaining SIF and NCES standards.

(877) 328-2969

<http://www.escholar.com>

See eScholar's ad on page 11A



ESP Solutions Group

ESP Solutions Group, a data consulting and technology firm based in Austin, Texas, has worked with numerous state and local education agencies on SIF implementations, including student locator frameworks, data collection and reporting activities, state data dictionaries, web-based school report cards, and data warehouse design and implementation. ESP has 12 years of experience in helping state education agencies with their electronic student record exchange sys-

tems, has been involved in four of the five statewide SIF projects to date, and has seats on both the SIFA Board of Directors and SIF Technical Board.

(512) 458-8364

<http://www.espsolutionsgroup.com>

See ESP's ad on page 2A



MAXIMUS Inc. of Reston, Va., has provided consulting services and software solutions to more than 2,000 school districts across the country. One of its premiere solutions—TIENET—helps schools manage and document services delivered through regular and special education. MAXIMUS is nearing completion of SIF certification for both TIENET and SchoolMAX, its student information system, through a partnership with SIF developer Integrity Technology Solutions. The Union City, N.J., school district—a long-time user of TIENET—is implementing a SIF project that will connect TIENET with its local library and student information systems, enabling all of these programs to share data seamlessly.

(800) MAXIMUS

<http://www.maximus.com>

See the MAXIMUS ad on page 9A



POWERFUL. PURE AND SIMPLE.

Mizuni Inc., of Lewisville, Texas, is an innovator and leader in information management solutions and services for K-12 school districts. The company partners with educators to develop "total information management" solutions that enable true data-driven decision making—focusing not just on technology, but also on the processes that are required to make this happen.

Technology might not be Mizuni's sole focus, but it's certainly important to the company's mission—and Mizuni has worked closely with the Western Heights School District in Oklahoma City, Okla., to develop a SIF-compliant solution for data integration by building custom agents, a Zone Integration Server, and advanced reports.

(469) 322-3401

<http://www.mizuni.com>

See Mizuni's ad on pages 12A and 13A



Novell Inc.'s Identity Manager is a SIF-compliant program that is helping the Charleston County School District in South Carolina (among others) set up new student accounts faster, saving both time and money. With more than 43,000 students and 7,000 employees across 79 schools, Charleston County until recently was manually updating student and staff information across multiple systems in all of its schools—a process that was time-consuming and inefficient. Thanks to Identity Manager—which supports SIF, but also can work independent of the standard—district officials are "able to do more with fewer people," said Connie Britton, technology infrastructure and support officer for the district.

(800) 529-3400

<http://www.novell.com>

See Novell's ad on page 24A

Continued on page 20A ▶

▶ SUPPLEMENT PARTNERS con't...

PowerSchool

PowerSchool Inc., a division of Pearson School Systems as of press time, is the developer of a fully web-based, platform-independent student information system of the same name that is SIF-certified. The program aims to simplify data-driven decision making by providing real-time information to all stakeholders over the internet. Administrators get the most accurate information to make more effective decisions; teachers gain timesaving administrative tools; parents gain immediate access to their children's grades; and students can track their own progress.

(877) 873-1550

<http://www.apple.com/education/powerschool>

See the PowerSchool ad on page 4A



Public Consulting Group (PCG) is a Boston-based management consulting firm that helps schools, governments, and other public-sector organizations improve their operations. PCG has developed a special-education management program, called EasyIEP, that is SIF-certified. EasyIEP is an internet-based solution for creating Individualized Education Plans (IEPs) and for managing special-ed reporting. It gives school administrators extensive reporting capabilities and easy ac-

cess to student information securely via the internet. PCG's other products include EasyTRAC, an internet- and Palm -based solution for documenting health-related services provided to special-education students; EDPlan, a web-based information management system to address the requirements of No Child Left Behind; EDExplore, a data analysis tool; and LobbyGuard, a visitor management and tracking solution intended to enhance school safety.

(617) 426-2026

<http://www.pcgus.com>

See the Public Consulting Group ad on page 10A



Rediker Software is a provider of school administrative software worldwide. Its flagship products, Administrator's Plus and the School Office Suite, provide an easy-to-use, SIF-compliant integrated school management software system that streamlines administrative tasks and manages student information throughout an entire school or district. Administrator's Plus offers leading-edge features such as report writers with graphics, integrated eMail, electronic portfolios, picture ID cards, skills-based report cards, student data online and on Palm or Pocket PC devices, and more.

(800) 213-9860

<http://www.rediker.com>



TetraData Corp., of Greenville, S.C., provides SIF-compliant data management, analysis, and reporting tools for schools. The company's EASE-e Data Analysis Suite is SIF-certified for version 1.1 of the SIF specification. TetraData's solutions are currently installed in more than 600 K-12 educational institutions serving more than 1.5 million students across 31 states.

(864) 458-8243

<http://www.tetradata.com>

See TetraData's ad on page 21A

The **Schools Interoperability Framework Association (SIFA)** is a nonprofit organization that brings together vendors, government agencies, state



education departments, and other industry leaders to develop a specification that ensures that K-12 instructional and administrative software applications can interact and share information seamlessly, regardless of their manufacturer. SIFA members play a direct role in the development of the SIF specification.

<http://www.sifinfo.org>



> Focus on education – while we take care of your student information needs.



Enjoy the peace of mind that comes with the personalized service of eSIST™, the only information management system that dedicates an experienced client service representative to each customer. Free your staff from time-consuming student tracking and record keeping, so they can focus on creating a rich and rewarding educational experience for your students.

To discuss specific student information needs for your school district, call us today at 1-800-668-8486 or visit www.aalsolutions.com.



aal is proud to be a certified SIFA member and supporter of the SIF® initiative since 2001.



™eSIS is a trademark of The Administrative Assistants Ltd. SIF and Schools Interoperability Framework are trademarks of the Schools Interoperability Framework Association.



illuminating student information

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Central Susquehanna Intermediate Unit
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(Contemporary Computer Services Inc.)
ESP Solutions Group
Excelsior Software Inc.
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FileMaker Inc.
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Food Service Solutions
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IBM Corp.
Infinite Campus
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Integrated Transactions Inc.
(dba DigitalBridge)
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iStars Group LLC
IST-International Software Trading
Jackson Software Inc.
K12 Plus Inc.
Kaplan K12 Learning Services
Laidlaw Education Services
Leader Services
Learning Bank

LunchByte Systems Inc.
MakeMusic Inc.
Management Information Group
Mandarin Library Automation Inc.
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MCS Software
Meal Magic Corp.
Microsoft Corp.
Mizuni Inc.
MSB
Municipal Accounting Systems Inc.
MUNIS
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Inc./Schoolmaster
Orbit Software Inc.
Otis Educational Systems Inc.
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PCS Revenue Control Systems Inc.
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Play well with others. Share.



It even applies to *technology*.

Mom was right all along, even when it comes to education software.

Diverse applications in your school district need to interact and share data seamlessly – both now and in the future.

Since its inception, TetraData has been committed to the SIF initiative. We were the first data warehousing company to complete and implement a SIF agent, and our SIF certification covers the most comprehensive array of K-12 data elements in the education market.

Real time data flow from applications to analysis, reduction of data redundancy, time and financial savings, and increased power and flexibility are just a few advantages **TetraData Analysis Suite™** users enjoy – thanks to our commitment to the SIF initiative.



(864) 458-8243

www.tetradata.com

info@tetradata.com

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The Library Corp.
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Wireless Generation Inc.
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Colonial Intermediate Unit (Pennsylvania IU No. 20)
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Cumberland County Public Schools (Virginia Division No. 25)
Danville City Public Schools (Virginia Division No. 108)
Delaware County Intermediate Unit (Pennsylvania IU No. 25)
Dickenson County Public Schools (Virginia Division No. 26)
Dinwiddie County Public Schools (Virginia Division No. 27)
Duval County Public Schools
Essex County Public Schools (Virginia Division No. 28)
Fairfax County Public Schools (Virginia Division No. 29)
Falls Church City Public Schools (Virginia Division No. 109)
Fauquier County Public Schools (Virginia Division No. 30)
Floyd County Public Schools (Virginia Division No. 31)
Franklin City Public Schools (Virginia Division No. 135)
Frederick County Public Schools (Virginia Division No. 34)
Giles County Public Schools (Virginia Division No. 35)
Gloucester County Public Schools (Virginia Division No. 36)
Grayson County Public Schools (Virginia Division No. 38)
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Henrico County Public Schools (Virginia Division No. 43)
Henry County Public Schools (Virginia Division No. 44)
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Intermediate Unit 1 (Pennsylvania IU No. 1)
Isle of Wight County Public Schools (Virginia Division No. 46)
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Rockbridge County Public Schools (Virginia Division No. 81)
Rockingham Public Schools (Virginia Division No. 82)
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Union Public Schools
Upper Dauphin Area School District
Virginia Beach City Public Schools (Virginia Division No. 128)
Warren County Public Schools (Virginia Division No. 93)
Washington County Public Schools (Virginia Division No. 94)
West Point Public Schools (Virginia

Division No. 207)
Westmoreland County Public Schools (Virginia Division No. 95)
Westmoreland Intermediate Unit (Pennsylvania IU No. 7)
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Winchester City Public Schools (Virginia Division No. 132)
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Alaska Department of Education & Early Development
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Delaware Department of Education
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IMPROVE STUDENT PERFORMANCE.

SIMPLIFY YOUR DAY.

The Upper Dauphin Area School District in Central Pennsylvania may be small, but they're big on using technology to serve their students—and liberate their staff. 🖋️ With the SIFWorks® Integration Platform from Edustructures®, administrative tasks become simple and automatic. For instance, when a new student is entered into the SIS, a network account is created and an ID is assigned. A lunch pass is then issued, a library card is created. Even the correct bus schedule is identified—all before the first period bell rings. 🖋️ Thanks to SIFWorks, students at Upper Dauphin schools arrive ready to learn. Teachers stay on the task of teaching. Student data is secure, consistent, and accurate. And administrators—with real-time access to student data—can adapt programs to assure student achievement.

From small districts to state-wide implementations.
EDUSTRUCTURES CONNECTS THE SYSTEMS THAT POWER EDUCATION.

Get your school, district or state connected. **877.790.1261** or **www.edustructures.com**



Novell® Automates the Identity Management in Our District

There's no bigger technology challenge to K-12 school districts than that of trying to keep track of a complicated and ever-growing number of networking systems and making sure all the right people are connected to the tools and resources they need every day.

Nobody knows the reality of that challenge more than Connie Britton, the Technology Infrastructure and Support Officer for Charleston County Schools in South Carolina. With over 43,000 students, 79 schools, and more than 7,000 employees, Charleston County School District is the second largest school system in the state and one of the area's top employers. Until recently, the district was manually updating student and staff information across multiple systems in all of its schools, a process which was time consuming and admittedly inefficient. Britton knew there were solutions out there that could help, but she and her school district wanted to find an answer that was based on the Schools Interoperability Framework (SIF) standard for integrating and managing data across multiple systems.

The Solution

Novell's Identity Manager Driver was the perfect fit for Britton and her district—for a number of reasons. While Identity Manager can work independently of SIF, it fully supports the standard, helping the district **integrate data across its systems** and replace its redundant manual data entry process with an **intuitive and automated** one. Of course there were other benefits that are harder to qualify...

*“The real benefit of our Novell solution is that we will be able to **do more with fewer people**,” Britton said. “Instead of spending time managing and manually entering data, we will now have more time to **focus on important things, like educating children.**”*

With Novell, Britton is able to set up new student accounts faster, saving the Charleston County School District both time and money. Identity Manager also gave the district **access to real-time information** and a Web portal to give administrative staff and teachers **secure identity-based access** to e-mail and other resources.

The solution implemented by Britton's team also included Novell Storage Manager (formerly named File System Factory). Now the district's **home directories can be automatically created** and managed by policy for each faculty, staff or student in the district. Directories and files can be automatically moved with the student from school to school during their tenure at the district—all without any staff intervention.

It isn't hard to see why Novell has had such success in the identity management world. At the Identity Management Challenge conducted by **InfoWorld**, **Identity Manager scored highest** among six other vendors with similar products, and at one of the lowest overall prices per user in the field—an added benefit Britton desperately needed for her district and is glad to have.

“In an era of tight educational budgets, we need to find ways to **increase our capabilities without spending more time or money**,” said Britton. “Our Novell-based SIF solution gives us the foundation to **increase staff productivity** and **streamline data administration** so we can **focus more time on students and education.**”

