the STANDARD

news and commentary on standards and technology in postsecondary education

Standards maximize IT investment

Steve Margenau of Great Lakes forwarded this article, which orignally appeared in Comdex Marketplace Newsletter, suggesting that the points made are applicable to the education industry. We agreed and obtained permission from Network World, Inc. www.nwfusion.com, to reprint the article in its entirety .

While IT organizations are streamlining and containing costs, IT managers and CIOs must also be concerned with protecting the investment in IT. One way to protect your investments is through industry standards.

Industry standards provide a mechanism for related products to integrate, interconnect, interoperate, translate data, be interchangeable, and more. If management tools are based on true industry standards, your investment in those tools is more likely to be protected in the long run.

Industry standards take lots of time and effort for vendors to create through standards bodies - partly because the members of the standards bodies, usually influential vendors, are making sure the standards include facets that will address their own technology.

It's important to pay attention to industry standards. Technology that uses proprietary protocols may not be your best choice, because it may lock you into a path that will lead to quicker obsolescence of the technology, or may put your IT organization in a position where integration and alignment with other technologies in your infrastructure are a greater challenge. There's a huge expense in having to replace technology that has outlived its usefulness because it can't easily integrate with other technologies.

As the complexity of managing the infrastructure continues to increase, the number of management tools you'll need is likely to increase. Integration of management tools is necessary, as IT must continually meet the increasing demands of a business. Integration is a key area where standards can help IT organizations, and the depth of integration that is provided by those standards must continue to deepen.

However, although standards are generally a good thing, you should also be cautious about them. Many vendors try to define "standards" which never

XML Forum Update

At the annual fall membership meeting held Oct. 22, in Spokane, WA, members of the Postsecondary Electronic Standards Council elected the five members of the Steering Committee of the XML Forum for Education. The Steering Committee provides direction and guidance for the activities of the XML Forum. Elected for one-year terms that run Jan. 1, 2003, through Dec. 31, 2003, are:

Jason Elwood, Miami University
Ed Hauser, SCT
Stephen Hawald, US Department of Education, FSA
Robert King, Citibank
Paul Ness, Sallie Mae

Also in Spokane, discussion within the XML Forum was based on four areas: Architecture redesign, data element definition and design principles, scope of the college transcript schema, and data format standardization. Schema design revisions were discussed and agreed to on the Core Data Dictionary and Sector Library Architecture which now means that the Core represents the "ideal" for re-usable data elements and aggregates. This agreement was reached through majority consensus of the major stakeholders, seeking to provide as broad a consistency as possible across the different business areas of the membership. Additional elements will be added to the base model as needed for particular business needs, and sectors will be free to modify where needed.

Discussion on principles determined there are valid instances when generic elements should be used but concluded that they were employed too often within the Core Components dictionary. An analysis methodology was developed for guidance in determining which modeling practice was most appropriate in a given situation.

The scope of the XML Transcript continues to be discussed. The heart of the remaining issue involves whether the transcript should be broad and include various amounts of data or be a definitive academic transcript.

The last area involved determining which data elements should apply across the education community and therefore should have common definitions and usage practices. Before making its final decision, the group decided that better understanding is needed in the business practices of registrars and financial aid arenas. Conference calls are being held to share that information and knowledge.

Additionally, a recent article published on Webservices.Org mentions PESC consultant Mike Rawlins by name and the work being conducted in X12. The article features a link to the X12 Reference Model for XML Design document which might provide interesting reading for more technically-oriented folks. For more information, see www.webservices.org/index.php/article/articleview/735/1/24/.

Letter from the Chair

Dear Friends and Colleagues:

I had a great time in Spokane at the member meeting and the subsequent work group meetings. It was good to see so many of you there. I'd like to extend a special thank you to the SPEEDE Committee for once again allowing us to hold our meetings in conjunction with the EDI in Education Conference. I know that some of you also took part in the Workshop because I heard good things from you about the Conference sessions.

The meeting provided members an opportunity to hear about all of PESC's activities and to consider other topics in which we ought to be engaged. David Paolino of SCT gave a very interesting presentation on web services as a foundation for the formation of our new Web Services Work Group. A second new work group on a global institutional identifier was established as well. I hope members who could not attend the Spokane meeting will contact the PESC office to become involved in our new initiatives.

One important aspect of the member meeting for me is the feedback time. For those of you who weren't able to make the meeting, we had discussions on maintaining better documentation from the workgroups and also historically on the work of PESC. Another recommendation that I personally support was a call for synchronization between our work and other industry initiatives. One great recommendation was to focus on practical experience by seeking schools that will take the PESC deliverables and implement them.

I appreciate the open sharing that occurred, and the comments for improvements you provided. At our next board meeting, we will spend time discussing these comments and determining how best to integrate the recommendations. Please keep those ideas coming.

Sincerely,

Keith Riccitelli
Chair
PESC Board of Directors

Mike Rawlins

Electronic Commerce Consultant

Interview with...

Mike Rawlins is vice chair of ANSI ASC X12's Subcommittee C on Communications and Controls, and co-chairs its Future Architecture Task Group that is responsible for technical aspects of X12's work on XML. He also served as team leader of the Requirements project team of the ebXML Work Group.

Rawlins is the owner and principal consultant of Rawlins EC Consulting. He provides strategic consulting on EDI and XML to PESC and other organizations, has been involved in EDI implementation projects in a variety of firms in several industries, and provides technical consulting on XML. He has worked as a technical consultant in Information Systems since 1984, and has specialized in EDI and related technologies since 1992.

Exactly what is X12 and what makes it an important standards organization?

X12 is an organization that develops standards for cross-industry electronic exchange of business information. The basic idea is that we exchange documents electronically. It is cross-industry, meaning that it's focused on not just one particular industry, but several industries, and on exchanges between organizations that might consider themselves to be in different industries—such as the automotive industry and steel production.

It's an important venue because it provides an open forum with easy-access membership and it has certain documented constraints on how it develops standards to ensure a level playing field. Just one vendor, or set of vendors, or specific industry groups do not dominate it. It provides a neutral forum in developing standards.

In addition, X12 is accredited by the American National Standards Institute (ANSI). Accreditation for standards bodies can be thought of in the same way one thinks about how certain groups accredit colleges and universities. Because X12 is accredited by ANSI, and actually is a committee of ANSI, it is certified by a third party as following certain procedures in its standards development to ensure consensus and open participation. It is not like a lot of industry consortiums or vendors. The way XML is today, anyone can stand up and say, "I've created this and it's a new standard." X12 is unlike some of those self-declared standards in that it is recognized and accredited by ANSI as being a standards-setting body that follows certain procedures and has certain constraints on how it does things in order to ensure an open process and open consensus.

Having the accreditation of, and association with, a body such as ANSI gives a little more credibility and weight to X12's standards than something developed by a single vendor or a few organizations.

What role does the education community play in X12 standards setting?

X12 is divided into a number of different subcommittees, of which most have a focus on a par-

ticular industry segment. For example, there is a transportation subcommittee, there is another that has to do with materials management, and correspondingly there is a subcommittee within X12 that deals exclusively with exchanges having to do with education. That subcommittee is called Subcommitte A Education Administration, which is currenlty chaired by Jerry Bracken, PESC Board Member.

As well as developing education-specific transactions within the X12 standards setting, participation also gives the education community a venue or a way to influence the overall way in which standards are developed. For example, the overall way in which XML is used on not only a national but also an international basis.

What organizations are responsible for setting national and international XML standards and what is X12's role?

There really isn't anybody who says who is responsible for setting standards. Groups set themselves up and take responsibility for developing standards. If you look at areas, for example, outside of education, you will find, particularly in areas like procurement, several groups have decided to take responsibility for developing standards. Saying who is responsible for them is impossible, because there isn't a single body or group to do so.

If you look, however, at who has constraints placed on them like accredited standards bodies or those that are recognized by governments, like through the United Nations (UN), within the international forum there is a group called CEFACT (Centre for Facilitation of Practices and Procedures for Administration, Commerce and Transport), a group charted under the UN economic charter for Europe.

CEFACT has recently reorganized itself. They are, within the UN framework, responsible for developing traditional EDI (Electronic Data Interchange) under the international syntax. They are starting to move into XML standards.

CEFACT's responsibility is recognized outside the UN as well. There is a joint memorandum of understanding with the International Standards Organization (ISO), the International Telecommunications Union (ITU), and the International Technical Electric Commission (ITU-IEC). Under this memorandum, the groups divide responsibility and recognizes that CEFACT has the responsibility for developing standards on an international basis.

Within the UN, there are other groups developing standards. The OASIS consortium, a self-accredited industry group dominated by vendors, is also developing cross-industry XML business messages under their Universal Business Language (UBL) technical committee. They regard themselves as having an international scope also. Therefore, there are at least two organizations that are taking responsibility for international standards.

Within the national context, there are several bodies that are developing, or have developed, XML standards for specific industries, such as RosettaNet, The Electronics and Information Technology Supply Chain, HL7 in health care and Acord in insurance. However, there isn't any group, other than X12, that really has taken responsibility for a cross-industry focus. Really, X12 is it for a wide, cross-industry focus that would encompass everybody.

X12 also has a mostly informal, but somewhat formal, input into CEFACT activities on an international scale. In this respect, X12 serves as a conduit into the international development process.

Once a standard is approved by an organization such as X12, what is the process for adoption?

There isn't a formal process as far as X12 is concerned. There isn't any kind of formal compliance check, for example, that a group is implementing the standard correctly, or certified that they are doing it according to the standard.

There are industry groups that develop guidelines for how standards are used. For example, PESC has developed several guidelines for how the X12 EDI transactions, as related to higher education, are to be used in specific circumstances. Even in that regard, as far as adopting those standards, it's still a voluntary process.

Does X12 work to get the word out that standards have been approved?

In a lot of cases, people who need a standard will come to X12 to develop it, so it's kind of a self-publicizing activity. In other situations, particular industries like PESC will promote the use of a standard. This is fairly common in other industries too.

Since many entities are already looking at, or already utilizing XML as their language of choice, what benefits does it being named "the standard" have?

The question points out one of the problems. Many entities are already looking at, or utilizing XML. Many different entities are utilizing XML, and they have chosen different ways to use it. They really don't have any benchmark for determining which of the ways they should use. It kind of gets to the essential role and value of having a standard in that people get together and agree on a common way to do things for everybody's benefit, because they all realize it is too costly for everyone to do things differently.

Once all the entities have agreed upon everything and had someone, like X12, officially label it a standard, it gives it a little more credibility in the market place and makes people more willing to adopt it.

Do organizations that have been using a language such as XML normally adjust their usage to meet the specifics set forth to meet the standard?

Even though the basic XML syntax has been around as a standard for approximately five years now, there are not very many so-called "standard messages" defined in XML syntax for common business documents, such as student transcripts or loan applications. It's hard to answer the question, with regard to XML, because people have not had anything to which to adapt.

If we take EDI as an example, what X12 does is define very generic messages that have a lot of information that is possible to use in them, giving you a very wide menu of what you may chose to use. What people do is pick out a part of it they want to use that is relevant to their business need. In EDI, everyone narrows down the standard to meet their particular needs.

In terms of XML, there are two aspects to the question. One, it is similar to the traditional EDI world, where you start off with a fairly all-encompassing standard and narrow it down to a particular usage. The other part of it is sort of like if an entity already has a student transcript and now X12 has one that is completely different. Do they continue to use their own, just switch over to X12's completely, or do a migration in stages? In that case, the change over process is usually all or nothing. When a standard comes out entities usually quit using their version and adopt the standard, whatever it is. However, what we have seen so far is that there are very few recognized standards, so we have not really seen people adjusting their usage to

meet a standard.

While the standards-setting organizations are getting ready for XML, how are industry groups like PESC working with their communities of interest?

In the absence of a body such as X12 or CEFACT developing XML standards, groups such as PESC and others have started developing XML standards for their own industries, similar to what PESC's XML Forum is doing.

There is an anticipation that once CEFACT or X12 finally comes out with their own set of international and national standards that these industry groups will migrate to the international or national standards, or feed their current standards into that process. While their individual standards will become somewhat modified, they do become a part of the basis for international standards.

Groups are also educating their members about what XML is and how it can be used. In a lot of cases, however, they are acting under the demands of their membership. They are driven by their membership, rather than driving their membership.

Currently PESC is developing its Technical Specification, a data dictionary, and schema for data exchanges between higher education trading partners. If PESC wants to participate in broader XML standardization efforts, is X12 the right organization to work within?

It's a matter of opinion, and there are trade-offs involved no matter how you look at it. The venues that are really the most likely for PESC to work with would be the UBL Technical Committee within OASIS, ANSI X12 as a national standard, and UN/CEFACT for an international standard. To determine which group is best, PESC would have to look at the workings of each group, as well as their current relationships with each group.

If we look at OASIS, their UBL Committee is really focused on a short-term two-year effort, which they are half way through with right now, to develop a set of no more than 20 common business messages. They view themselves as a kind of interim solution, although they do have plans to eventually move the work into CEFACT. If they don't move into CEFACT, they could become more of a permanent organization and bring in groups such as education to come work with them, but they do not have plans to do this. OASIS is primarily—and they might dispute this—a vendor-driven community. So OASIS UBL may not be a good place for PESC to participate.

CEFACT is certainly recognized as the big player in the international arena, but if you look at the work that the EDIFACT Workgroup has done as an indication of what it might do with XML, it really has not done much with education. To my knowledge, there is no recognized education group within EDIFACT. They have dealt with it under a general government group, but do not have a group formally recognizing education. Furthermore, a lot of education processes vary widely from one nation to another. It would be very difficult to develop one standard that would be applicable to all of the nations that would be using them.

By default, that leaves X12. It is a national standards body, which would be the appropriate venue to develop standards for the U.S. and possibly Canada as well. PESC has an existing relationship, through the Education Administration Subcommittee, with X12 to develop standards. In my opinion, the natural, best fit for PESC, if it wants to move to broader XML standard development is X12.

become adopted as true industry standards. Or there may be competing standards that provide more confusion for the industry, rather than providing the guidance they were designed for.

Emerging standards are also another area to be cautious about. As standards emerge, they are usually a work in progress. There's the danger that they won't be adopted widely, or that the emerging standard will be supplanted by other movements within the industry.

IT staffs must be aware of the IT standards that are relevant to their organization. Keeping tabs on the adoption of new standards, as well as the developing ones, is the only way to ensure that your investments are protected. If you invest in an emerging standard too early, before it has been adopted, you may end up with technology that will become obsolete. But if you're aware of the standards, and invest at the right time, you've done your job and have made a good investment.

— By Audrey Rasmussen, research director, Enterprise Management Associates

PESC invites Best Practices submissions

Each year PESC holds a Best Practices competition to select an outstanding example of the use of standards for data sharing.

Now in its fourth year, the competition is currently open for submissions which illustrate a concerted effort to design and implement standards in an electronic exchange, or to foster the use of standards through a published article or some other medium.

Examples include:

• Standardization of data definitions

• Standardization of data formats or transmission protocols

• Articles on the benefits of standards

• Demonstrations or pilots utilizing data standards

• Initiatives moving from a paper process to electronic delivery using an electronic standard

Submissions are to include a full description of the standards initiative, timelines and benchmarks, associated documents, and an explanation of the role standards played in the initiative.

The competition is open to associations, organizations, institutions and individuals within the education community. Past winners have been NCHELP's Electronic Standards Committee (2001), the University of Northern Iowa (2000) and Ontario Universities' Application Centre (1999). These winning submissions may be downloaded from www.StandardsCouncil.org.

All entries should be submitted by February 3, 2003 to:

Michael Sessa, Executive Director
Postsecondary Electronic Standards Council
One Dupont Circle, NW, Suite 520
Washington, DC 20036-1135

Or email to Sessa@StandardsCouncil.org.

PESC forming two new work groups, seeks participants

The PESC Board of Directors has established two new work groups—Web Services and Single Institutional Identifier. Each group has a charge from the Board and a core of members interested in one these topics. Other PESC members are invited to join as well.

The Web Services work group will develop and deliver a white paper that analyzes and evaluates the technologies and standards incorporated or under development for web services; identifies and evaluates leverage points, benefits and concerns for the PESC membership; educates the PESC membership on these issues; and makes recommendations for further PESC actions and any role that PESC should play in this area.

The first meeting of this work group was held in Spokane at the PESC membership meeting Oct. 23. An outline of the white paper was developed and volunteers offered their research and writing skills. The tentative schedule for a review of the first draft will be in mid-December with the tentative final delivery in February 2003, in time for the next full meeting of the XML Forum.

The Single Institutional Identifier Work Group will focus on assessing the extent of the need for such a global identifier, the requirements and what code sets currently exist for foreign institutions. The work group will then determine the feasibility of meeting identified needs and recommend to the Board any future activity PESC should carry out in this area.

PESC members wishing to participate in either one of these work groups should contact Michael Sessa, Associate Executive Director, at 202.293.7383 or sessa@standardscouncil.org.
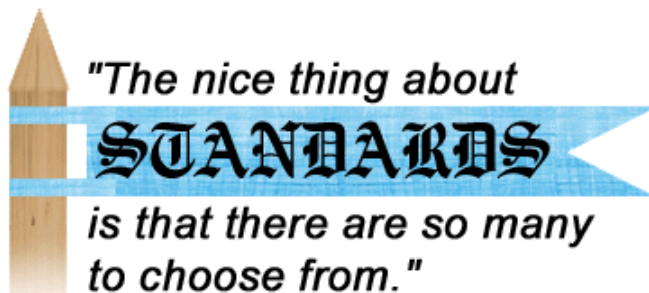
New Board members announced

The PESC Board of Directors has tapped new members to replace the three Board members who recently stepped down in mid-term. Michael Sessa left the Board in October to join the PESC staff; Hal Higginbotham of College Board stepped down after becoming the temporary President of CollegeBoard.com; and Melanie Barton of NCS Pearson has been reassigned to an area outside of higher education. All three were important contributors to the work of the Board, providing thoughtful guidance and perspective to the direction of the organization. PESC is grateful to them for the time and energy they devoted to PESC.

The Board has selected the following to complete the unfulfilled terms:

Michael Berberet, NCS Pearson (2003)
Steve Biklen, NASLA (2003)
Mark Jones, National Student Clearinghouse (2004)

"The nice thing about STANDARDS is that there are so many to choose from."

A global de facto standard in wireless networking is on its way to acceptance, according to *The Washington Post.* Wi-Fi or Wireless Fidelity or IEEE 802.11 has been integrated into a growing number of devices such cell phones, PDAs, and laptop and desktop computers. Without a standard, consumers will find their wireless devices have spotty connection or connect to only a small number of other devices. Over the past 18 months, some businesses have begun to use Wi-Fi to provide Internet access to their customers, while others are considering Wi-Fi access through public access points in airports, hotels and restaurants. Some consumers are using the gear to create wireless networks at home.

PESC On The Road

PESC staff continue to promote the work of PESC activities, workgroups and efforts. Last week, at the first of two Electronic Access Conferences (EAC) sponsored by the US Department of Education's Office of Federal Student Aid (FSA), Michael Sessa, PESC Associate Executive Director, presented two sessions. The first was "Completing the Data Puzzle," which discussed and analyzed how data is created, compiled and shared over the course of a student's life. The second session, held in the form of a panel, was titled "Standards and Open Systems," and focused on how standards are set, why they are important and what current standards efforts are going on right now. FSA repeats this conference for the west coast Dec. 3 to 6 in Las Vegas. PESC sessions will be repeated there as well.

On Dec. 3, 2002, both Betsy Bainbridge, PESC Executive Director, and Michael Sessa will address the Virginia Association of Collegiate Admissions and Registrars Officers (VACRAO) in Crystal City. The topic will be Electronic Data Exchange in Higher Education and discussion will include an update on current activities of the XML Forum for Education and the upcoming release of the XML Postsecondary Transcript Schema.

On Dec. 10, 2002, Michael will serve on a panel at the Consumer Bankers Association (CBA) Annual Student Lending Conference in Crystal City. The topic will be Common Origination and Disbursement (COD) and Common Record.

Upcoming PESC meetings will include a meeting of the XML Forum in February 2003 and PESC's Annual Conference in May 2003. Final dates and locations are still being set and will be announced soon. Stay tuned!

Schools offered trial membership

PESC considers itself a school-centric organization, focused on standards for data exchanges among schools and their trading partners. We incorporate schools in our membership through professional organizations, such as AACRAO, NASFAA, Educause, and NACUBO, whose members are schools. However, eleven schools have chosen to join PESC on their own this year, and they bring invaluable commitment and first-hand experience to the work of the Standards Council. We want to encourage other schools to get involved in PESC and are offering schools a trial membership for the remainder of the membership year—through June 2003—for $250. It is our hope that such a period of participation will help these schools recognize the value of PESC membership and will rejoin in the future.

School representatives may access membership materials at www.StandardsCouncil.org.

PESC meets on its fifth birthday

The PESC mid-year meeting in Spokane last month provided attendees with an opportunity to hear updates on PESC activities and learn about some new standards initiatives.

Mike Rawlins offered an update on X12 activities with regard to XML standardization, and David Paolino gave a presentation on web services and their potential education-based applications. David's PowerPoint is available at www.StandardsCouncil.org.

Michael Sessa was welcomed as the new Associate Executive Director and Betsy Bainbridge, current Executive Director, provided a review of PESC's early years, mission and objectives. Birthday cake was served for dessert at lunch.

The remainder of the meeting took place in breakouts focusing on XML Forum issues and development of two new work groups on Web Services and Single Institutional Identifier.

Technology Tidbits and Standard Snippets

■ **OASIS** recently announced the **formation** of a **Digital Signature Services Technical Committee**. The group plans to build on the work done by W3C dealing with digital signatures and cryptographic time stamping services in web services. In addition, the committee's work will also build on internal standards development such as eXtensible Access Control Markup Language (XACML), Security Assertion Markup Language (SAML), and Web Services Security (WS-Security). **OASIS** also recently announced that its members **approved SAML Version 1.0** as an OASIS Open Standard.

■ **W3C** is nearing **approval** on **Simple Object Access Protocol (SOAP) 1.2**, now that earlier concerns with patent problems seem to have been resolved. Both Epicentric, a subsidiary of Vignette, and WebMethods, which makes integration software, indicated that they may have patents that cover the technology used in the SOAP 1.2. However, an Epicentric representative said the company will be amending its stance, because it no longer believes it has related patents and that, regardless, it believes the technologies should be available on a royalty-free basis.

■ **W3C's Platform for Privacy Preferences** (P3P), which allows Web users to specify what information they are willing to share with websites, is finding that **developers are generally disinterested** in incorporating the technology. The lagging economy is considered one of the main reasons why web authors have dropped P3P from their list of things to accomplish, given that resources continue to grow scarce.

■ At the ANSI Accredited Standards Committee (ASC) X12 October meeting in Miami, **ASC X12 completed the X12 XML Reference Model**, which describes a method for assembling flexible business messages. The reference model is designed to align with draft ebXML core components specifications. This document will be submitted to the UN/CEFACT Applied Technologies Group as a source for specifying an international reference model. The reference model can be viewed at *http://www.x12.org/x12org/xmldesign/index.cfm*. ASC

X12 also initiated the implementation of its recently approved XML procedures that expedite the submission and approval of XML business messages. In addition, ASC X12 is in the final stages of developing the XML design rules, which is the final document required for ASC X12 to deliver to its cross-industry membership.

■ The **U.S. Department of Education** issued final regulations in the Federal Register Nov. 1. The regulations are for the most part the result of the Department's Negotiated Rulemaking process, which took part in several meetings earlier this year. However, a regulation on the **12-hour rule**, which mandated a minimum of 12 hours of coursework per week if students were to be eligible for financial aid, was **abolished** despite a lack of agreement during the previous meetings. The 12-hour rule was considered an unfair, antiquated measurement by proponents of distance education, including Rep. Johnny Isakson (R-Ga.), who introduced a bill that would have removed the requirement, among other things, during the 107th Congress. The removal of this requirement is expected to start the creation of a "new" standard in financial aid, thereby opening up the aid arena to distance education providers. The new standard requires that institutions offer at least "one day" of instruction per week to qualify for aid. A formal definition of "one day" has never been issued, despite the fact that it has historically been the requirement for postsecondary programs that operate under the traditional calendar.

Webinar series introduced
PESC is pleased to announce the success of its first webinar held last month. Using collaboration software the instructor led participants through real-time discussion, demonstration and information sharing. Due to this success, PESC plans to hold additional webinars in the future. Possible topics include "Implementation of SEVIS for Batch Processing" and "EDI/XML." A special thanks to Mike Rawlins for serving as instructor and to Oracle for allowing PESC to use its webinar software.