ESTHER DYSON'S MONTHLY REPORT

Release 1.0®

VOLUME 22, NO. 9 | OCTOBER 2004 | www.release1-0.com

Held Back: The Market for Software in our Schools

BY ESTHER DYSON

Enterprise Systems: Movement at the Edges

The $1.8-billion market for K-12 basic administrative and student information systems is relatively sluggish and mostly a replacement/add-on market, with low supplier turnover reflecting the multi-year purchasing cycle. A host of smaller vendors offer add-ons to these systems, for everything from scheduling classes to supporting guidance counselors, tracking students, writing recommendation letters to colleges and the like. These systems are the primary reporting system used for accountability and funding, and very useful in fulfilling NCLB requirements.

Over the last few years, the biggest technology move has been a shift from client-server systems to ones with browser interfaces. A second, which has yet to gain force, is the adoption of data standards so that Web services can make meaningful use of data from different sources.

Schools Interoperability Framework: Another kind of standards

School administration systems have a lot in common with other enterprise systems – including the fact that any knowledgeable person in the market can cite examples of implementations that failed: The software worked, but somehow the system didn't.

One reason for many of the problems – and for continuing inefficiencies in the systems that do work – is a lack of data standards. The cafeteria system can't talk to the transportation system; the child who registered for first grade has to register separately to use the library, get on a bus route or join the junior swim team. At another level, a school district may have trouble consolidating the reports from the various schools in its district, and a state. . .you can just imagine. Given the prevalence of custom-built systems, this is a big problem in the K-12 market. The systems are not proprietary because the creators won't share them, but rather because so many people build their own rather than reuse someone else's work. That may change a little as more user-developers get on the Net and start to share, but right now there's a profusion of code and surprisingly little reuse or interoperability.

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Reprinted with permission from **Release 1.0®** (ISSN 1047-935X), which is published monthly except for a combined July/August issue by CNET Networks, 104 Fifth Avenue, New York, NY 10011-6987; 1 (212) 924-8800; fax, 1 (212) 924-0240; www.release1-0.com. It covers the worlds of information technology and the Internet, including wireless communications, security, business models, online services, tracking systems, identity management and other unpredictable topics. . .and the policy issues they raise.

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Into the breach has leapt the Schools Interoperability Framework (SIF), a non-profit initiative launched by Microsoft in 1998 and incubated on neutral territory at the Software and Information Industry Association until 2003. Now independently incorporated as a 501c3, it promotes XML data standards for the K-12 sector. In addition to most of the relevant vendors, SIF is working with state and federal education officials to improve vertical as well as horizontal interoperability, including the collection and aggregation of NCLB statistics across the country.

The benefits are obvious but the initiative's growth was slow: Everyone wanted his standard to be *the* standard, says executive director Larry Fruth, a former state education technology director in Ohio. Currently more than 250 districts in 35 states with more than 2.5 million students connect at least some of their disparate systems using the SIF Interoperability Specification. The spec helps them avoid redundant data entry and lets them link those systems better; in the long run, it will help them avoid vendor lock-in.

The initiative is one of the few data standards that maintain third-party certification service (through the Open Group). It counts 35 certified applications so far, including products from Apple, Microsoft, Chancery (administrative software), Pearson's testing arm, Novell and others.

A new community

But a funny thing is happening in the administrative software market. The Web is opening up these information vaults. Pearson, for instance, has just acquired AltonaEd, a $1-million revenue start-up. AltonaEd, based in Minneapolis, built a full-fledged front-end to Pearson's SASI XP (School Administration and Student Information X-Platform), but it had little distribution capability. As part of Pearson's portfolio, AltonaEd's product, School Information & Performance System (SIPS), now has a way to reach the market

PEARSON DEFINES THE ENVIRONMENT

Pearson Education is the leader in the educational software market – a lead it earned with its $4.6-billion acquisition of Simon & Schuster's educational business (mostly books) in 1998, plus a steady diet of more technology-related acquisitions since. The company is part of Pearson PLC, the $7-billion-revenue UK conglomerate that owns the Financial Times and Penguin Books among other properties. Pearson CEO Marjorie Scardino, a newspaperwoman from Georgia now living in London, sees education as a key direction for Pearson. By sheer logic, there are more children in need of reading or English-language education than there will ever be readers of the FT. Pearson Education, with $4 billion in revenues, addresses a worldwide market, including a big push into English training in China, which wants everyone to learn English in time for the Olympics.

The US K-12 component of Pearson's business, however, is about $1.5 billion – which still makes it the leader in the space overall. Pearson's US school *software* offerings include digital content from textbook publishers Scott Foresman (elementary grades) and Prentice Hall (secondary), Pearson Educational Measurements (incorporating the former National Computer Systems testing company), Pearson Digital Learning (instructional software) and Pearson School Systems (administrative software business units, including assessment products). These software revenues added up to about $250 million last year. That group is managed not by a longtime textbook publisher but by Jack Lynch, former CEO of bigchalk.com, now owned by ProQuest.

Scardino's initiatives haven't all paid off, but the group's performance is solid. According to Simba Information, Pearson Educational Measurements, Pearson Digital Learning and Pearson School Systems are all leaders in their respective market segments. Moreover, although – or perhaps because – the company is a collection of disparate acquired properties that has undergone a number of reorganizations, it is more open to new thinking than the sum of its parts; that is, Scardino and Lynch are pushing for change. Pearson reflects the transformation the market itself is undergoing as six-year-life textbooks start to give way, haltingly, to more modern instructional tools. In education at least, diversity is a feature rather than a bug.

for its Web-based school-to-home product. It helps reduce the proverbial "silo" problem between children and parents.

Juan: Hi Mom.
Alice: Hi sweetie. How was school?
Juan: Okay. Can I go watch tv?
Alice: Do you have any homework, darling?
Juan: Nothing much. I'll do it while I watch tv, okay?

It's not just about homework. Parents can track tests and other school events, and can catch problems early. They can see what classes their children are taking, and (depending on the specific implementation) can communicate with teachers, compare their children's performance to norms or standards, and so forth. In some districts, schools and libraries are opening their facilities to parents. And in many cases, parents can log on from work – during their lunch breaks, of course.

"Potentially it's very big," says Pearson's Jack Lynch. "We aren't pricing it separately. We're throwing it in to add value and encourage broader use." As a parent of two teenagers himself, he's an enthusiast.

AltonaEd/SIPS has a growing number of competitors of various flavors. For example, there's K12 Planet, designed as a front-end to the Chancery student information system, the second-best seller behind Pearson's SASI. Also gaining fast is Blackboard, founded in 1997 by two former education consultants at KPMG and public since last summer. Previously focused on the higher-education market, it now also serves more than 400 schools with its Blackboard platform. Like SIPS, its software serves as a front-end to school enterprise systems and links parents, teachers and students, making school data available (with proper authentication) to the right parties and fostering communication among them. Blackboard's prices range widely, both per-student and according to the functions chosen, but $30,000 per year for school district with 5000-10,000 students is typical. Blackboard had $93 million in 2003 revenues and is making the transition from losses to profits; the high-school share of its 12 million-plus users worldwide is undisclosed.

A Google search on the concatenated terms "parents school information system access" produces 2.9 million results. Many are announcements from local schools of the existence of such systems, many of them one-off efforts by enterprising local parents and teachers. Interestingly, these systems mostly reach out to the middle class that so far is underserved by technology in its schools.

School Loop: Ankle-biter

Another independent alternative is School Loop, a Burlingame, CA-based start-up that operates as an ASP. Founded by Mark Gross, an international relations teacher at Evergreen Valley High School in San Jose, CA, it launched last month (September) at three schools – his own Evergreen, plus two more in San Mateo County where he lives. Take-up has been quick – even from teachers and staff. Says Dennis Barbata, Evergreen's assistant principal, "We are blessed with staff that the industry calls 'early adopters.' The expectation of using technology for instruction and communication has elevated itself to culture status [at Evergreen]. It's just the way we do things."

Gross was formerly President, Digital Division at Imagine Media, where he helped to launch *Business 2.0* magazine. He left in 2000 in a general exodus. After a couple of years of semi-professional poker playing, he started working as international rela-

tions teacher at Evergreen. His students love him, by all accounts, and he recently won a $10,000 Internet Innovation award from the National Semiconductor Foundation (for another project; see resources).

But to his own teenage kids, Gross was still just a parent. They continued to rebuff his attempts to find out what *they* were doing at school. In response, he built School Loop, a Java-based front end to Pearson's SASI. He got ample support from the three schools it serves, but had (and needed) no particular interaction with Pearson.

Gross bubbles over with enthusiasm. About 10 people are working on the project in various capacities. Another important component is student volunteers who type in homework assignments for less adept teachers and provide tech support for all comers. "We're busting down social silos – not just between students and teachers, but among students. Kids who would be quiet in class – some of them are embarrassed because of their accents or they're just shy – they're talking online. Brainiacs, Goths, geeks and jocks, they're all posting." He adds: "I see each student as a project, and the whole project team – kid, parents, teachers – needs to communicate."

SCHOOL LOOP INFO

Headquarters: Burlingame, CA
Founded: March 2004
Employees: 5
Funding: undisclosed amount from founder Mark Gross
Key metric: in 5 schools in CA, for about 6000 students, 500 teachers and 2000 parents
URL: http://www.schoolloop.com

Of course, this is all exciting stuff, but does it matter? What's three schools amidst the 120,000 in the US? First of all, School Loop is not alone, though Gross, with his industry background, VC connections and an actual business model ($1 per student per year), stands to go broader than most. Gross decided to make School Loop a self-sustaining, for-profit company rather than a foundation, in order to build something that can outgrow and outlast his own tenure. "No one owns communication and collaboration at a school. There's no Assistant Principal of Collaboration," says Gross. The sales challenge will be huge once he has exhausted his own network of contacts.

Indeed, School Loop's challenges will not be technical. The technology is primarily just information access and display to mostly standard databases and text servers, though for obvious reasons, it's important for security to work flawlessly, limiting specific information to the parents or guardians of each particular child. In fact, many parents could build such systems for themselves – and if not, they could probably afford to use School Loop.

The challenges will center around policies – policies for authenticating parents and policies on what they can see, what students can say, policies for how much help they

can give one another on homework. In one sense, School Loop offers the benefit of default policies (and tools to change them) built in. But it will surface conflicts that could previously be ignored. Parental involvement is good, but this is just one more mechanism by which school officials can get drawn into disputes: Does the estranged father get access? And what about the kids whose parents don't have a Net-enabled PC – or time – at home? This just accentuates the unfairness? Yes, it does, but should no child get ahead?

School Loop and its brethren are unlikely to pull huge amounts of revenue away from traditional suppliers. The revenue pool is fixed, and the traditional players will most likely keep their share, which correlates more closely to bigger marketing budgets than to better products. Nor will the pie grow larger, since there's no financial return on investment that would increase schools' budgets.

However, the ankle-biting will change what vendors need to offer in their products. More than that, it will change what schools have to deliver to their constituents. Just as consumers now expect to get answers online from formerly 9-to-5 retailers, so will they now expect answers from their schools. They send their kids to school with cell phones so that they know where the kids are. Why should they expect any less of their schools, who can tell them what their kids are *doing*? ■ R 1.0