

BRINGING SCHOOL ADMIN INTO THE 21st CENTURY

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Jim O'Connor and
Patrick Maher
are



Setting the Records Straight



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BY VICTOR RIVERO

Over the last decade, leaders and administrators have infused helpful technologies into all aspects of education—including the registration, enrollment and record-keeping process. However, did you know that by graduation, the average student file grows to *nearly 200 physical pages*? Further, registration is projected to increase 4 percent—while costs per student will increase 8 percent annually through 2014. As educational institutions move

away from paper-based to electronic systems, such changes are at once interesting and challenging. To ease that process, to know what to expect, and to find out how such systems work and what the future holds in this area, we talked to a couple of experts.



Jim O'Connor (pictured, left) is the president and CEO of Surety, LLC, and Patrick Maher is the founder and CEO of SRC Solutions.

Here's what Jim and Patrick had to say about some helpful products and services they've been involved with, and what they think about transformative technologies and the future of education.

Victor: Seems like technology-based solutions could really help mitigate paper-based registration and enrollment challenges. What is Registration Gateway? How are schools and school districts using the solution?

Patrick: Registration Gateway is a revolutionary approach to serving parents and school districts for all aspects of the registration and enrollment processes. School districts are using the software to gather enrollment data, maintain electronic copies of documents and manually track and distribute documentation. As part of the registration process, school districts will realize 100

The registration process takes 1/10th the time it used to.

percent auditable registration packages guaranteed to be authentic and tamper proof. It is critical that these student packages are auditable and guaranteed and defensible. In addition to the data integrity

Victor: What are the benefits to schools of migrating to electronic records?

Patrick: There are numerous benefits for a school district to



GATEWAY TO IMPROVEMENT. Patrick Maher, Founder and CEO of SRC Solutions, shows K-12 schools how to streamline paper processes.

we protect through Surety's AbsoluteProof, school districts also see value in the following five categories:

- 1) The registration process takes 1/10 the time it used to
- 2) 99.9 percent perfectly clean data
- 3) 100 percent paper free
- 4) Data entry is reduced by almost 80 percent
- 5) Registration packages stored in a state of the art content management system.

move away from paper and towards electronic records. First, the district will minimize risks associated with paper and microfilm. School Superintendents can be assured that their district's student records will be safe from disasters, and lost/missing documents. A second advantage of maintaining the student records electronically in a content management system is that multiple users

using different levels of security can securely access the student enrollment forms. By getting rid of filing cabinets, districts will save money, labor and space. Our customers are thrilled with our ability to integrate their electronic files with their student management systems. Almost all of the data entry has been eliminated into the student management system. This also allows them to access the student forms in seconds. Lastly, by using electronic records, schools with a transient student population will also have the ability to easily support the transfer of students between different schools.



THE POWER OF PROOF.
Jim O'Connor,
CEO of Surety,
LLC, creator of
Absolute
Proof.

Victor: What data integrity risks do educational institutions face as they move from paper-based to electronic records?

Jim: Educational institutions are moving away from paper-

Education is moving away from paper and embracing electronic records.

based records and are embracing electronic records for all of the reasons Patrick mentioned. When institutions make the move from paper to electronic records, they are immediately presented with data integrity risks and authentication becomes an important question. One major risk that institutions face is that their electronic records could be modified, either purposely or inadvertently, in a way that causes harm to students or to the institution. Well designed systems, such as Registration Gateway, include stringent controls that prevent unauthorized or inadvertent modification. An equally important risk that institutions face relates to proving the authenticity of their electronic records. It is not sufficient for the institution to simply protect the integrity of their records; they must also be able to *prove* the authenticity of those



records if they are ever challenged. The inability to do this can have serious and lasting legal and reputational consequences. Registration Gateway uses AbsoluteProof as a means to ensure that educational institutions can defend the authenticity of their records throughout the lifetime of the record.

Victor: What is AbsoluteProof?

Jim: [AbsoluteProof](#) is a third-party digital time-stamping service that enables organizations to protect the integrity and defend the authenticity of their electronic records. The service, which is based on the ISO/IEC 18014-3 and ANSI X9.95 Trusted Time Stamp standards, enables organizations to “seal” the integrity of their records at a

particular point in time and to “validate” that integrity at any time in the future. By validating a record, an organization can prove that the record existed at the stated time and that it has not been modified since. The service can be used to protect any type of electronic record, including documents, emails, images, audio, video, or in this case, student enrollment records. The AbsoluteProof technology is unique in that it provides independent proof of record integrity that lasts the lifetime of the record—regardless of how long that may be. The value of AbsoluteProof is that it provides organizations assurance that their critical records have not been altered, inadvertently or maliciously, since the time they were

From the moment that student file is born, it is tamper proof and safeguarded.

“sealed.” Furthermore, it enables those organizations to defend the integrity of their records if ever challenged by a third-party in a regulatory or legal context.

Victor: How does the integration of AbsoluteProof work within Registration Gateway?

Patrick: School districts that use Registration Gateway will create a digital environment – meaning the student record is created in electronic form on day 1 of registration. As more and more content is created electronically the need for authenticity is critical. The

data and content that Registration Gateway is creating and Surety is sealing electronically is regulated by the government – so it’s critical that the software programs meets and exceeds all of the requirements going forward. SRC’s partnership with Surety’s AbsoluteProof provides the district with a digital time-stamp similar to a notary, assuring them that from the moment that the student file is born in Registration Gateway, the file is tamper proof and safeguarded. District guardians will also have peace of mind comfort that



their sensitive data is secure in the hands of the district.

Victor: How are records sealed, and how do schools and school districts verify the integrity of their records?

Jim: When a record is created, Registration Gateway creates a “digital fingerprint” of the record. This fingerprint is unique to the document so



that any change in the document will cause its fingerprint to change. Registration Gateway then sends the fingerprint to the AbsoluteProof Service, which returns a corresponding AbsoluteProof Seal. The seal is an unforgeable and verifiable token containing the fingerprint and a trusted time value representing the current time. Registration Gateway

Technology is clearly transforming how students learn and access information.

then stores the seal with the record. It is important to note that the record never leaves the Registration Gateway during the sealing process. Once the record and seal are stored, Registration Gateway can use the seal to prove that the record existed at the stated time and hasn't changed since. The verification process has two steps. The first step is to recreate the record

fingerprint and compare it to the fingerprint in the Seal. They will only match if the record is unchanged since it was sealed. The second step is to ensure the seal is valid by sending it to the AbsoluteProof Service for verification. If the fingerprints match, and the seal is valid, that proves that the record existed at the time indicated

on the seal and hasn't changed since.

This process may sound complicated, but the sealing and validation process is transparently implemented in the Registration Gateway software. The end-user doesn't need to do anything to seal the record. It happens automatically. Verifying a seal is as simple as clicking a button.

As an extra measure of security, Surety calculates a mathematical (cryptographic) summary value from all the seals it creates in a given week, and publishes that value in *The New York Times*. Much like state lotteries televise their drawings to prove the process is valid, this “widely-witnessed” value provides an anchor for the security of the whole system. You can think of this value as a digital fingerprint of all the seals produced that week. Both Surety's internal records and the individual seals produced during that week can then be checked against

this publically available value to confirm their authenticity. For complete details on how AbsoluteProof works, download Surety's [technical whitepaper](#).

Victor: In addition to student registration, where else do you see schools and school districts going paperless?

Patrick: The Registration Gateway software platform is capable of handling any process that involves a form. In addition to student registration, districts can setup solutions for the HR On boarding of employees, teacher contracts, customized curriculum processes and discipline forms. Additional Gateway modules that are enabled on the software platform would also benefit from Surety's AbsoluteProof service.

Victor: What are your thoughts about how technology is transforming education?

Jim: Technology is clearly transforming how students learn and access information both inside and outside of the classroom. Today's students

Virtual methods of communication are beneficial for parents and the school district.

literally have the world of knowledge at their fingertips —online learning, online books, digital libraries, digital archives, digital newspapers, digital encyclopedias, academic resources and educational games are but a few examples of resources available to them. Technology is also transforming the communication channels between students, teachers and parents. Parents today have visibility into their children's academic progress in school that was unthinkable just a few years ago; enabling them to be more engaged in their children's education. Students have faster and easier access into assignments, testing results and teacher assessments, enabling them to better manage their education. Finally, technology

is transforming the administrative side of education through the implementation of electronic processes and workflows, resulting in increased productivity, greater



accessibility to information and an improvement in the overall education experience. This increasing reliance on digital information, electronic workflows and electronic records requires security controls that ensure the integrity and authenticity of electronic records used in education. AbsoluteProof is an ideal security control for this purpose.

Victor: What are your thoughts on the future of education?

Patrick: Technology is revolutionizing the way that children are learning in the classroom. New technology on the Internet is giving school districts tremendous advancements in the education industry. The growing use of virtual methods of learning and communication are beneficial for both the parents and the school district. I think education is going to continue to evolve as technology and methods of learning expand and grow. We are at the tip of the iceberg for utilizing technology and tools for learning. School districts are realizing that they must move forward with digital content technology because the days of paper are finally numbered. As education evolves –

School districts are realizing they must move forward with digital content.

especially in the biotech industry, software services offered by SRC Solutions and Surety will become the perfect example of what helps online schools succeed.

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