

Software as a Service for Education:
Do *More* for Less, Faster

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By Karen Greenwood Henke

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About the Author

Recognized as one of "20 to Watch" by the National School Boards Association Technology Leadership Network, Karen Greenwood Henke regularly speaks at educational technology conferences and has written over fifty articles and white papers on topics such as: long tail learners and the future of education; emerging technology trends in K-12 education; grant giving and grant seeking strategies for schools; and data-driven decision making for school districts. Henke has 20 years experience developing web-based content and managing the creative process for online applications and communities. She is the founder of Nimble Press™, a strategic content and communications firm.

With challenge comes opportunity – and educational institutions seem to face no shortage of challenges these days. A national recession has resulted in flat or shrinking budgets. As urban school populations decline, suburban districts are opening new schools every year to keep pace with capacity. School facilities have become community centers and district networks are experiencing 24/7 demand. New technologies promise transformation of operational systems and educational processes, but often at a high cost with a long implementation time. School districts, large and small, have discovered software-as-a-service (SaaS)— sometimes referred to as applications that are “in the cloud”, Web-based, online, or on-demand — as a way to save time and money without reducing services.

Data-Driven Decision Making in Operations

Chuck Edwards spent 33 years in school facility maintenance and knows that one of the first places schools make budget cuts is in maintenance and operations. Yet, delaying maintenance reduces the life expectancy of facilities being used by more groups, more hours of the day than ever before. “As budgets get tight across the nation,” he says, “we have to look at a way to forecast our facilities’ use and life expectancy.”

As director of facilities at Sherman Independent School District, 60 miles north of Dallas, Edwards was responsible for maintenance and operations of 1.3 million square feet in 14 facilities, as well as custodial and capital projects in a district serving 6500 students. Recently retired, he is now the district’s construction manager. In both positions, he relied on a decade of data gathered using online utility tracking software that monitored electrical, water, and other utilities at every facility. The information helped him justify his budgets, allocate resources, and now provides him the data he needs to plan for the future.

“SaaS is the easiest way for facilities that use technology in their daily work to get up and running quickly.”

Chuck Edwards,
*Construction Manager,
retired Director of Facilities*

*Sherman Independent School
District, Sherman, Texas*

www.shermanisd.net

6500 Students

Cost Effective and Affordable

How does a busy school district support a sophisticated technology used to track utilities and facility usage? They rely on a SaaS vendor to maintain the technology for them. “SaaS is the easiest way for facilities that use technology in their daily work to get up and running quickly,” says Edwards, “you just need a Web browser.” In 1999, the district switched from server-based software that required local installation, maintenance, and backups (adding demands on an IT staff already stretched thin) to SaaS for utility tracking and facility maintenance orders. As a result, Edwards and his staff have 10 years of data at their fingertips for a low subscription cost. Teachers and staff log in using a desktop or mobile Web browser to enter requests and facilities staff have Web-based access to reports. When Edwards presented the SaaS option to the Sherman ISD School Board, he told them: no maintenance, no server costs, no backups to maintain locally.

SaaS Defined

SaaS, on-demand, and cloud computing have become common terms in the technology world. In one way or another, they refer to the growing trend of software vendors providing their applications over the Web as a service, rather than as a set of code to install on a local server or desktop computer. With SaaS, customers tap into one code base that

is refined and enhanced based on feedback from all users. Individuals or organizations subscribe to the service and access it using a computer or mobile phone Web browser. These applications are known as on-demand, in-cloud, Web-based, or online. Cloud computing is used by many SaaS providers and refers to massive server farms that host applications online for many customers. Cloud computing enables flexible processing power and storage capacity to scale up or down, depending on actual usage.

Almost anyone who uses the Internet today has used SaaS. Email programs such as gmail, Hotmail, Yahoo mail, ePals, and Gaggles are examples of SaaS—there is nothing to download or install, users simply create an account and log in through their Web browser. Popular social networking sites such as Facebook, LinkedIn, and Twitter operate using a SaaS model. In the education market, SaaS-based applications have become available for a wide range of needs: from simple survey tools to complex student information and curriculum delivery systems. According to a recent benchmarking survey of over 600 IT professionals working in K-12 education, 47 percent of school districts were using at least one SaaS application and 27 percent were planning for or considering SaaS solutions¹ Some of the most compelling reasons school districts choose SaaS have to do with the challenge of supporting increasing technology usage with the same or fewer staff members.

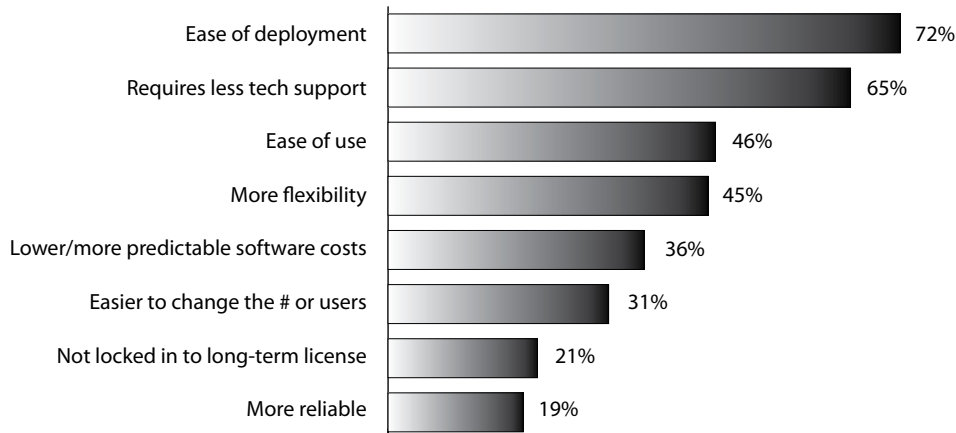
Software-as-a-Service

SaaS vendors provide applications to customers over the Internet as a service, much like a utility provides service to many customers from one source.

Cloud Computing

Massive server farms that host applications online for many customers. Have flexible processing power and storage capacity to scale up or down, depending on actual usage.

Benefits of Using Software as a Service



IT professionals in K-12 education cite ease of deployment and support as the top benefits of moving to SaaS applications²

Secure and Reliable

Because SaaS vendors serve many clients, they invest more resources than a typical school district in equipment and expertise to maintain reliability and security. Many SaaS providers leverage co-location datacenters, which offer highly secure, redundant hosting environments and off-site back-up systems. These are often “greener” solutions through the use of server virtualization and multi-tenant applications. A SaaS provider should offer service level agreements with information about privacy and data security, including: the

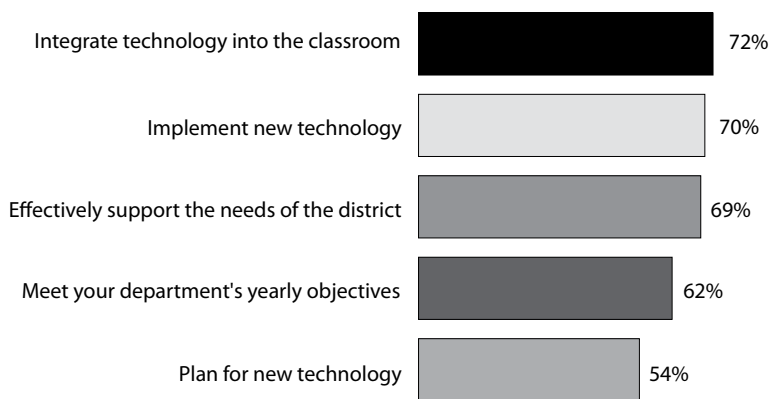
physical security of servers and data, redundancy, back-up services, network security, and the location of the servers (hosting the application from at least two sites prevents loss of service in case of a power outage, fire, loss of Internet connectivity or other issue).

For the past 10 years, Edwards has not had a single issue with reliability or security, two of the top concerns of school district leaders considering SaaS applications. "I am comfortable with the fact that our SaaS provider has secure server farms and backups every 30 minutes to a secondary data center," says Edwards. "The hardest part was getting staff to embrace it until they realized that the work order gives them direction on a daily basis. They know on a daily basis what they are doing the next day and the work order is the best justification to track costs to the powers that be." Teachers and district staff have come to value the transparency. When a work order they submitted is updated or completed, they receive an email notice with the details.

Doing More with Less

In the past decade, computers and network access have become standard in school classrooms and mission critical to operations. Yet, according to the previously mentioned IT benchmarking survey, 72 percent of school IT leaders believe that they do not have enough staff to implement new technologies and 69 percent feel their staffing levels do not allow them to effectively support the needs of the district or school³. In addition, the lack of staff capacity makes it difficult to meet their departments' yearly objectives and plan for new technologies.

With IT Staff Stretched Thin, Priorities Suffer



Understaffed IT departments compromise classroom technology integration and more to keep up with support demands

Network Manager Ginny Wexler welcomed state-funded laptop labs and smart boards into School District of Springfield Township in Oreland, Pennsylvania. However, the added technology without additional staff made it increasingly difficult for her to track inventory, manage desktop configuration, and keep software licensing costs in check across the district's four schools. According to the America's Digital Schools 2007 report, the average share of the technology budget dedicated to software is 22 percent.

"I didn't have a handle on my inventory and I could not get a hold of my software licensing," she says. "We were doing it manually with Excel spreadsheets, but we did not have enough time to walk seven buildings and track equipment. Were we losing stuff? Were things moving? I didn't know." Wexler needed a reliable inventory with software information not just for tracking compliance, but also to measure utilization and make better software purchasing decisions.

Easy to Deploy

Wexler was about to spend \$40,000 on an enterprise-based system that required her to purchase, install and maintain servers, when she learned about the benefits of SaaS. With cloud computing, applications can be turned on as needed because there is no client-side infrastructure to buy, install, configure, or maintain. When users log in they see what they need based on their role in the system, and the administrator simply adds new users by creating a new account. For a fraction of the cost, she opted for a Web-based IT inventory management system, and never looked back. "The implementation is the easiest thing I've ever done," she says. "We deployed it via Active Directory. When a machine connected, the agent installed itself and sent the asset information to the server. You get everything you need to know about the machine and all of the software."

Easy to Learn

SaaS helps Wexler and her team centralize information while distributing control. Instead of walking a building and manually gathering information in separate spreadsheets, the information is automatically generated and uploaded to the online IT asset management system. Staff members then have role-based access to appropriate information and reports. They are empowered at the school level with information, while maintaining consistent, equitable access across the whole district. As they use the system and exchange ideas with fellow clients online, they discover new ways to improve their work. They now tag assets as grant-funded or leased. Wexler generates compliance reports and can now track software utilization – and adjust purchases accordingly.

SaaS for Large School Districts

While small school districts benefit from the scale that SaaS offers, large school districts often choose SaaS for the flexibility and lower risk of implementation. Wake County Public Schools, a large school district with 140,000 students located in and around Raleigh, North Carolina, was interested in SaaS applications, but rolling out any new application to 159 schools is a significant undertaking. CIO Bev White wanted to measure the

"The implementation is the easiest thing I've ever done... You get everything you need to know about the machine and all of the software."

Ginny Wexler,
*Network Manager
School District of
Springfield Township
Erdenheim, Pennsylvania*

www.sdst.org

2070 Students

benefits of SaaS without taking on a mission-critical system, such as student information systems. “It is hard to make a judgment about the value if you only know it intellectually,” she says.

Low Risk

Because SaaS-based solutions deliver service online and have a common code base, the setup and implementation for a district is minimal. A district can essentially test the service without a significant outlay of capital and time. White decided on IT asset management for her first SaaS deployment because it did not need to integrate into customized enterprise systems. “I needed a district-wide inventory of computers,” she says. “Each school had a spreadsheet of their own inventory but nothing matched up. People had the wrong serial numbers and guessed at capabilities. Our inventory is 55,000 and last year we replaced 12,000 computers.” The SaaS IT asset management system enabled her to convert a labor-intensive task into an automated, Web-based tracking system.

Simple and Scalable

During the first year of deployment, White rolled out the application to a few schools at a time. Software agents on the computers automatically report back and populate the system with their location (based on IP address) and capabilities. White and her team compared the data to the spreadsheets kept by on-site staff to confirm the accuracy of the reports before switching to a fully automated system. Because some schools have the resources to purchase their own equipment, simply replacing outdated computers across the district would not deliver equitable access. An accurate inventory of devices, capabilities, and their locations allows White’s team to calculate refresh based on the actual technology, as well as the number of students, classrooms, instructors, administrators, and type of school. As White and her team identified new report types needed for their calculations, their SaaS provider developed the system capabilities, making the updates available to all customers, not just Wake County.

Cost Control

The greatest benefit for Wake County so far has been the ability to control costs. The estimated price for an installed enterprise solution for a large school district is more than one million dollars with at least two years implementation time, plus annual line items for support agreements, two full-time employees, and hardware costs. “We had tried building an inventory system five years ago. But it never got to the point where we liked the results,” she says. With SaaS, the district was able to start small and have a solution up and running in a matter of months. And White can budget more effectively. “I have a predictable amount I pay each year,” she says.

Now that the district has confirmed the accuracy of the data and the reporting they need, White looks forward to doing away with the spreadsheets so site technology specialists can spend more time in support of students and learning. “They will be thrilled to throw the spreadsheets away,” says White. “They will be able to log in and see their reports from anywhere.” In addition, White and her staff have developed a seven-page questionnaire to use with SaaS vendors to ensure reliability and security for hosting data off-site.

“They will be thrilled to throw the spreadsheets away. They will be able to log in and see their reports from anywhere.”

Bev White, CIO

Wake County Public Schools
Raleigh, North Carolina

www.wcpss.net

140,000 Students

Designed for Education

Edwards believes not just in SaaS, but in the value of using systems designed for the educational environment: "We're all in this together. We all do the same thing. Whether you have 100,000 or 1000 students, you still have to document what you do every day. If you do not have the data to back up your request for a new staff or \$100,000 in your budget, the board will say, come back to us when you can justify it."

As a result of using SaaS for utility tracking, Edwards' district has Web-based access to reports on the cost for every facility per square foot and per student. They have been able to reduce costs while adding 300,000 square feet of new facilities. Edwards can determine whether a "green" technology truly reduces energy costs by comparing it to other facilities, and use real data to inform decisions about new construction. "Our new facilities are operating cheaper than any building to-date," he says. "We implemented all the good things from the other buildings." The online system gave Edwards the quantitative data to prove his team's value and back up his resource requests without the burden of an enterprise technology system to manage.

Transforming today's IT and facilities challenges into opportunities requires smart leadership and strategic use of technology to save time and money without reducing services. A reliable software-as-a-service provider that specializes in and understands the unique needs of the education environment can help school districts improve services today at a fraction of the cost of enterprise software.

Endnotes

¹ [*The Unique Challenges Facing the IT Professional in K-12 Education*](#), a research survey and report conducted by eSchoolNews and SchoolDude in partnership with CoSN, March 3, 2009, p.26.

² *Adapted from* [*The Unique Challenges Facing the IT Professional in K-12 Education*](#), a research survey and report conducted by eSchoolNews and SchoolDude in partnership with CoSN, March 3, 2009, p. 27

³ [*The Unique Challenges Facing the IT Professional in K-12 Education*](#), a research survey and report conducted by eSchoolNews and SchoolDude in partnership with CoSN, March 3, 2009, p.3.

Benefits of SaaS for Education

- *Cost-effective and Affordable*
- *Secure and Reliable*
- *Easy to Deploy*
- *Easy to Learn*
- *Low-risk Investment*
- *Simple and Scalable*
- *Control Costs*
- *Frees Up Support Staff Time*



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