

Wired for success

Portland tech firm connects state schools at light-speed

BY FRANK O SMITH

On paper, it was just another project. But in the real world, it was an intricate feat of logistics and timing for Systems Engineering to bring wireless Internet access to some 300 Maine schools shuttered for the summer.

The Portland-based company, which builds and manages information systems for businesses large and small across northern New England, was tasked this past summer with expanding Maine's groundbreaking laptop program. Maine's Learning Technology Initiative was launched in 2002, sparked by the vision of then-Gov. Angus King to put a laptop in the hands of every seventh- and eighth-grader in the state. This past year it was expanded to include students from seventh to 12th grade.

"It was only a medium-sized engineering project, but it was huge in terms of logistics," says Craig Tribuno, Systems Engineering vice president. Every school required multiple visits, starting with an inspection to determine building construction (wood vs. brick, which affects wireless broadcasts) and physical layout; then design; wiring;



Craig Tribuno, vice president of Portland-based Systems Engineering, says the company's four-month timetable to bring wireless Internet service to roughly 300 Maine schools was a successful exercise in logistics and coordination

installation and testing. "We had to manage hundreds of visits a month, the movement of multiple tractor-trailers of equipment and ask school administrators to give us access afterhours and on weekends to get it done," he says.

The impact of the initiative is significant in terms of the potential to improve education, to prepare a 21st-century work force, to enhance Maine's technology infrastructure and to seed statewide economic development, says Tribuno. All of which have an impact on Systems Engineering's own future success.

Maine remains the only state in the nation with such a broad-based connectivity program. Though clearly educationally focused and managed within the state's Department of Education, its relevance to boosting the state's economic base is also key.

"The program has always been at root an economic development program, grounded in the idea that economic development is always deeply connected with education," says Jeff Mao, learning technology policy director for the state's Department of Education. "Angus King used to tell students that he couldn't tell them what the future holds — only that technology will certainly play a role. The program is based on the idea that we can improve the educa-

tional system in general in Maine and achieve a more educated work force, and leverage technology in the process by having a population that is technologically astute."

King used a one-time budget surplus to launch the program in 2002, with the idea that a portion of the funds could be used to start an ongoing endowment that would be augmented over time. But national and global economic cycles derailed that idea. Apple Computer won the initial competitive bid in 2002 with a per-student cost of \$289. Renegotiation with Apple brought that cost down to \$242 in 2006, enabling the state to direct the savings to fund installation of wireless networks at high schools, a project that attracted a two-to-one federal match. Individual high schools were asked to cover the per-student cost out of their own instructional budgets. Some 300 schools — approximately 55% — stepped up to the offer to update networks at middle schools and expand inclusion to high schools, bringing the laptop program to 54,000 students.

"There was a 100% interest, but some schools felt it wasn't currently within their means," Mao says.

Ensuring equity in the quality of the wireless network infrastructure at each school was deemed critical to the expansion, says Mao.

Systems Engineering

120 Exchange St., Portland

Founded: 1988

Owner: 100% employee owned since 2008

Employees: 77

Products and services: Building and managing information systems

Revenue, 2009: \$23 million

Contact: 772-3199

www.syseng.com

Apple selected Cisco Systems network equipment, and Cisco recommended Systems Engineering, its Maine partner and value-added reseller, to manage installing the wireless networks at all schools.

"It was great that they selected a Maine-based company," says Tribuno, noting the coordination involved in the project was massive. "People were nice to each other under difficult circumstances, which made the process go a lot easier."

"Systems Engineering worked hard to understand the spirit of the Maine Technology Learning Initiative, what it means in terms of opportunity to the state of Maine," says Doug Snow, Apple senior project specialist. "And Maine is a big state with a lot of distance between schools. They didn't get a year to look at this, but had to put it on the road and get it done in a short timeframe, and in an affordable manner.

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With 77 employees, Systems Engineering is the largest independent IT professional services company in Maine, according to Joe Kumiszczka, executive director of the industry association TechMaine. The 22-year-old company is 100% employee owned, putting it among a handful of companies in Maine that are partially or completely employee owned. Founder and President Harry McMann initiated the employee stock ownership plan transfer in 2007, completed in 2008, "to ensure a smooth succession plan that kept the company on a strong financial footing and let the employees control their own destiny," says Tribuno.

Under such a structure, a trust was created that enables employees to receive stock through annual distributions. "If you stay here 10 or 15 years, and the company is successful, you end up with a solid nest egg," Tribuno says.

"We think that it helps in attracting qualified new employees and in retaining current employees. People are more conscious of expenses — and there's a little more peer pressure in terms of performance," he says.

There is a discernable esprit de corps at System Engineering's offices on upper Exchange Street in Portland's Old Port. There are few hierarchical formalities in place. Tribuno points out elements of a

recent remodel that netted private offices for the head of sales and also human resources. Sales are essential, but no more so than human talent, which Tribuno sees as the real core asset of the company.

Tribuno has been with the company for 11 years, joining when the firm had only 17 employees. In that time, he has seen steady, progressive growth in all aspects of the business, from number of employees, to revenues, to services and solutions provided.

The company did \$23 million in revenues last year, with the Apple project contributing \$7 million. "It would have been a relatively flat year otherwise, but we're expecting to grow in 2010 without the Apple contract, and to add six to eight new employees this year as well," Tribuno says. It just completed a major project with an undisclosed Maine bank with 35 branches — a seven-figure contract.

The company provides services for 500 customers across northern New England, including clients in financial services, law, health care, manufacturing, education, non-profit organizations and government. It partners with many of the leading global technology solution providers, including Cisco, Microsoft, Hewlett-Packard, Symantec, Tandberg and Lenovo, among others.

"We bring these products and convert them into solutions," says Tribuno. "We're a [value-added reseller], but we're essentially a professional services firm."

Technology prompts changes

The company has employed technology to change its own business model over the years. It started as a systems engineering firm that installed and then monitored and managed business information systems onsite at its customers' locations. But about five years ago, it started offering more cost-effective solutions via remote monitoring.

"Remote monitoring and management technology moved us from a one-to-one relationship of having an engineer onsite," Tribuno explains. "When we started to monitor and remediate remotely, it made us much more efficient."

About four years ago, it took advantage of the merger of computer and telephone technologies that resulted in computer tele-

Project logistics

The recent expansion of the Maine Learning Technology Initiative involved upgrading wireless networks for the existing program serving seventh- and eighth-graders, and also adding networks at participating high schools. Here's a run-down:

Timeframe: 4 months

Total schools: Approximately 300

Middle schools: Participation, 100%; schools, about 230; students, approximately 29,000

High schools: Participation, about 55%; schools, approximately 65; students, approximately 25,000

Site visits per school to design/install wireless networks: 5

Approximate school site visits: 1,500

Original per-student cost (2002 Apple contract): \$289

Current per-student cost (2006 Apple contract): \$242

Source: Systems Engineering

phony. Two years ago, it began to provide data center hosting services, which has enabled customers to more effectively and completely outsource their IT infrastructure requirements.

An increase in outsourcing was a revenue stream that helped stabilize business in 2009 during the global financial market meltdown as companies looked to reduce costs and improve performance.

"If you have a one- or two-person IT staff, it makes a lot of sense to outsource, as we increase the specialty of resources available to support you. For example, we can support 250 users with one help desk person, and spread the cost of that expertise over several companies that use the service," Tribuno explains. "With automation and hosting, the way technology has evolved, excellent information systems are available to even the smallest companies. Even as a one-person company, you can have a network or a website that is as good as IBM's because of the tools available."

Doing business in Maine is both challenging and rewarding, he says. "We're not as densely populated, so it can be expensive in terms of how long it takes to deliver onsite services. I have peers in Manhattan whose business model is to service two city blocks. They never get in their cars. But it's very rewarding nevertheless to be well employed in Maine."

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