

Bath Central School District creates 21st-century learning platform with converged communications.



Overview

■ **Challenge**

Update and integrate communications system within budgetary constraints

■ **Solution**

A converged messaging platform

■ **Key Benefits**

- *Significantly reduced costs and complexity*
- *Enhanced staff productivity*
- *Improved service to students and the community*
- *Increased ability to scale as needs change*

Bringing K-12 learning into the 21st century

Traditionally, K-12 schools have not been laboratories for leading-edge IT technology and network implementations. Educators are forward thinkers, but because of fiscal constraints and the need to be fully accountable to the public, school districts often hesitate to try a technology that isn't widely adopted and understood. Bath Central School District (www.bathcsd.org) is a small, K-12 district in the state of New York that supports approximately 2,000 students and 250 staff, not to mention the extended community of

the surrounding townships. As it prepared to build a new high school and renovate existing buildings, which included updating its communications infrastructure, the district found itself having to weigh competing requirements. It needed both to educate children equipped for the new millennium and to operate within the very real financial and staffing restrictions that nearly all public schools face.

Bath Central School District had developed a comprehensive building plan for its expansion project that included specifications for separate cabling networks for voice, data and video communications systems. However, as administrators prepared to go forward with those plans, they quickly saw that implementing and managing a triple communications network would be a budgeting and resourcing nightmare. Bath Central School District, like many districts, could only provide about one IT resource per 1,000 users, far below

“Once we knew what IBM could bring to the table, we knew there was no way we could fail.”

— Christopher Smith, director of educational technology and communication services, Bath Central School District

the industry-standard ratio of 1:100. Maintaining three networks for communications would probably consume the entire team, leaving no room for fulfilling many other responsibilities. There had to be a better solution.

Converging communications

Newly hired to direct educational technology and communication services for Bath Central School District, Christopher Smith knew that the planned systems would require his team to spend large amounts of time dealing with day-to-day support issues—such as changing out phones, troubleshooting video feeds, and maintaining core and edge electronics—on three separate systems. He worried that these responsibilities, spread out over all five district schools, would so occupy his staff that there would be no time to plan for new educational strategies and technologies. He was also concerned that having three disparate communications systems (voice, data and video) would severely impede staff productivity.

Smith knew that a converged communications system could help resolve many of these concerns. After researching the matter, he knew it was possible to combine voice, data and video communications on a single network, with a single cabling system. A unified messaging system would enable users to use phones, browsers or mobile devices to receive and respond to messages—no

matter what format they originally came in. He also realized that such a system would be less expensive to manage, would require fewer staff resources, and would create a flexible foundation for adding new technology down the road.

But because converged communications models had not been widely adopted in K-12 educational environments, Smith didn't know exactly how such a system would work in a school setting. "I'd done my homework, and I knew that converged communications might be a great way to go, but I didn't know enough about the options or the logistics," he says. That's where IBM came in.

Unified messaging: advanced technology for advancing education

When Bath Central School District turned to IBM for help, a deeply collaborative relationship was established from the start. A dedicated team from IBM worked closely with Smith to understand the requirements and goals of the district. In addition, IBM flew in networking experts from its campus in Raleigh, North Carolina, to help resolve strategic issues and allay concerns of school board members related to cabling and infrastructure design. This combination of localized, onsite knowledge and objective expertise helped Smith's team identify a broader range of options for the district's own implementation.

Even though Bath Central School District was one of the first K-12 districts in the nation to go to a fully converged communications system, IBM was able to provide Smith's team with a set of references and case studies. For Smith, the biggest hurdle was moving to a system based on Internet Protocol (IP) telephony. But IBM was able to connect Bath with a neighboring school district that had recently made that change—and with great results.

By talking to other districts served by IBM, Smith was able to build confidence in IBM's collaborative approach, experience and knowledge of how to apply leading-edge technology in the K-12 environment. Initially, he felt he was taking a "leap of faith" as an adopter of a new technology, but as the process progressed, he felt increasingly comfortable. "By the time we got to the implementation, I was at peace," he says. "I knew we were doing the right thing and had no doubt that we had selected the best technology resource for this journey."

IBM was also able to guide Smith's team through a series of difficult and often politically charged decisions, such as whether to go with copper or fiber optic cabling. By remaining objective and speaking from experience—backed by solid examples and case studies—IBM was able to help Bath Central School District choose the technologies and strategies that best suited the district's particular needs.

In the end, the district had a flexible, IP-based system that enabled it to unify voice, text and video communications on a single platform. Streaming video, conference calls, faxes, e-mails, interactive distance learning—all could be supported using interchangeable interfaces and the same wiring system. For example, teachers could listen and respond to e-mail messages over the phone or access their voicemail from a Web browser.

Delivering a “top-shelf” learning experience now—and in the future

Bath Central School District began to realize the benefits of a simplified, converged communications model right away. As the new plan began to take shape, Smith’s team went back to the architect of the new school building. Now that the building needed only one cabling plan instead of three, the architect was willing to credit the district for the change. This, along with the reduction in the cost of physically running three sets of wires, helped defray some of the initial engagement costs with IBM.

The new system is easier to support as well. Smith notes that many schools must outsource their private branch exchange (PBX) systems because it simply is too much to manage. That hasn’t been necessary for Bath Central School District. With the IP-based system, Smith’s team can keep spare phones and switches on hand, adding or changing devices within minutes.

“It’s a tremendous savings in both time and money,” Smith notes. He adds that the new system has enabled the district to extend its communications network—every office and classroom now has a phone, and every staff member has his or her own messaging inbox—while still eliminating a large number of phone lines and the associated dial-up costs.

Instead of just reacting to IT crises, Smith’s team now has time to strategize and plan for the future. The team is

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currently exploring ways to leverage virtual reality technologies and distance learning to bring more educational advantages to Bath Central School District’s students at minimal cost. It’s also exploring one-to-one computing, a 21st-century teaching approach that lets teachers interact individually with students via wireless laptops. “Our days are no longer consumed with troubleshooting network issues and management of disparate antiquated systems, and that enables us to work with our staff to create an amazing learning environment and more opportunities for these kids, not to mention for our staff and the community,” says Smith.

“Because the District Technology Committee had a vision of a truly flexible environment and our board was very supportive of this vision, we were also able to add a wireless layer to our state-of-the-art network,” Smith says. “This allows us to use mobile computing throughout the district so that staff, students, and teachers are not bound to a desk or a classroom.” Although the district could not afford to leverage every option available with unified messaging, the system’s open architecture will enable Bath Central School District to add new features, such as XML-over-phone, as they are required or requested.

“I feel we have leveraged technology for the next ten years,” Smith says. Because of funding cycles, it can be difficult for schools to perform infrastructure upgrades, so installing a system that would remain flexible and up-to-date was critical. What Smith likes best is that he has become a yes-man to the people he serves. “If someone thinks it’s a good idea to offer live footage of basketball games, board meetings or chorus concerts, we can do that. We can have a middle school class teaching science or history to a kindergarten class in a different building. These requests don’t require any reengineering because the system is incredibly flexible. Now, if our staff can dream it—most often we can make it reality.”

Collaborating for the future

The relationship between IBM and Bath Central School District did not end with the implementation of the new system. As the district explores new educational strategies, such as one-to-one computing, IBM continues to be a resource. The great thing, says Smith, is that he has access to the very same team that's been there all along. "We've had the same contacts at IBM for eight years, so everyone has that history. The team at IBM understands our environment, our values, our priorities, and it has really paid dividends for our district."

In hindsight, would he do anything differently? "Absolutely not! We're able to create a top-shelf, 21st-century educational environment for our students and staff. And that's what our students, staff and community deserve."

For more information

To learn more about IBM's converged communications and unified messaging solutions, contact your IBM representative or visit:

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