Keeping schools connected during COVID-19 and beyond

How one organization's embrace of the cloud led to short and long-term solutions in education

When schools throughout the country transitioned to online learning in March 2020, they had to quickly address two challenges. First, they had to rapidly provision devices to students, teachers, and staff and make sure the entire school population was connected to the internet. After deploying these devices, they needed to ensure employees had access to the school's network so they could access files and applications and continue to collaborate with one another from home.

The South Central Regional Information Center (SCRIC) had to address both of these challenges on an extremely large scale. SCRIC provides technology to 50 school districts across three Boards of Cooperative Educational Services (BOCES) in the south-central region of New York State. Twenty-seven of those school districts are supported by a Managed Information Technology Support (MITS) model in which SCRIC collaborates with one of the BOCES, Broome-Tioga (BT) BOCES, to handle all Information Technology (IT) administration and management decisions, allowing district leaders to focus on their primary task: educating students.

To support this network of students, teachers, and administrators, SCRIC and the SCRIC/BT BOCES teams needed to immediately provide desktop access for remote work. One of their priorities was getting all administrative employees access to the network as soon as possible. At the start of the pandemic, network access was particularly important for finance staff.

"It just so happened that COVID-19 lined up with the end of our fiscal year," says Philip Sage, manager of project design and development for SCRIC. "April is a busy time of year for our business office. They needed access to our financial systems to issue purchase orders and do billing. Getting them onto our machines was really important."

SCRIC had used other network solutions, including virtual private network (VPN) accounts, when dealing with desktop access on a smaller scale in the past.

"Typically, there were a few users in each district who needed remote access," Sage says. "It might have been an operations person who needed to get on the network to look into an HVAC system, or a superintendent who needed to go in and get some files."

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However, VPN accounts would not work for the unique situation of the COVID-19 pandemic.

"It takes time to set up hundreds of VPN accounts, and there is more risk involved by setting up a VPN from a home machine into our network," says Sage.

SCRIC also didn't want a solution that would require extra hardware, which would take time to procure. With pressure mounting to quickly solve this issue of network access, SCRIC needed a turnkey solution.

Turning to the cloud

SCRIC decided to turn to a cloud-based solution, Amazon WorkSpaces, to provide staff with desktop access. Amazon WorkSpaces is a desktop-as-a-service (DaaS) solution that provides users with virtual desktops, or WorkSpaces, they can access from any supported device — anywhere, anytime.

Amazon WorkSpaces was the ideal choice for SCRIC because it fit into the organization's cloud-first approach to education.

"We seek to adopt the native, cloud way of doing things, rather than pushing everything we already have on premises here, as it is, into the cloud," says Sage. "For every project we do we first consider how we can do it more effectively in the cloud."

Security was also a key factor in SCRIC's decision. Unlike VPN accounts, Amazon WorkSpaces allowed SCRIC to control the access that administrators had to the network, removing the risk of setting up hundreds of VPN accounts on home devices. Amazon WorkSpaces gives employees a true in-office experience from home, complete with the security and the capabilities they would find in the office.

Without the need to purchase and install hardware or deploy complex virtual desktop infrastructure, SCRIC could install DaaS solutions quickly, which was critical during the rapid transition to working from home in March. SCRIC/BT BOCES deployed 270 Amazon WorkSpaces in a single weekend, providing 10 Amazon WorkSpaces for each of the 27 school districts in their MITS model. SCRIC had a total capacity of 530 Amazon WorkSpaces — 10 for each of the 50 districts.

"The ability to just flick a switch and have all that in place to support staff was really great," says Sage.

Amazon WorkSpaces has helped SCRIC and its partner districts in both the short and long term.

"Amazon WorkSpaces ended up being a really good stopgap to help us get something out really fast, something that could be really useful," says Sage. "It gave the organization time to understand who would be working from home for the long term, who would be coming back into the office, and what kind of long-term supports they would need to put in place."

From a tweet to a partnership

Another benefit of turning to Amazon WorkSpaces was the responsive and thorough support from Amazon Web Services (AWS) during rapid deployment. The SCRIC/BT BOCES team recalls a moment early in the deployment of Amazon WorkSpaces when they wanted to increase the limit on the number of their virtual desktops. Needing a fast response, they turned to social media to contact AWS.

"We worried that we weren't going to get approval for the limit increase on time. But we jumped on Twitter and reached out to AWS. Sure enough, we had a couple people respond right away," Sage says.

Andrew Defoe, technical business development manager, end user computing for AWS, reached out to SCRIC on LinkedIn saying he heard they were looking for some support. According to Ben Kolb, network engineer at BT BOCES, Defoe's response was swift: "He said, 'I'm the right guy to talk to; let me put you in touch.' That morning they had worked everything out for us."

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The result of this brief Twitter encounter was the development of a long-lasting, collaborative relationship between SCRIC and AWS. AWS works with various educational services agencies, and SCRIC has now joined the AWS Partner Network (APN), which helps companies successfully build AWS solutions through technical and business trainings, marketing support, and more.

As an APN Partner, SCRIC regularly collaborates with the AWS direct team and partner team to develop and deploy other cloud solutions to improve educational services for its partner districts.

"Going down the partner path with AWS has given us an opportunity to be a leader throughout New York state," Sage says. "We are on the leading edge in our educational community, which is exciting."

Looking toward the future

As school districts look toward the fall and the start of a new school year, SCRIC is working with AWS to consider adopting cloud-based services that will support students, teachers, and staff in the long term, whether they are working from home, in a school, or in a hybrid setting.

When schools initially transitioned to online learning, students could not access certain applications on their Chromebooks. For example, south-central New York high school students supported by SCRIC have many science, technology, engineering, and math (STEM) applications they use for their career and technical education (CTE) courses, including Adobe Creative Cloud, AutoDesk AutoCAD, Revit, Inventor, SOLIDWORKS, and Unity3D.

These applications, which include computer-aided design (CAD), mechanical engineering, and electrical engineering apps, are often only available to students in a computer lab on school property.

"You simply cannot run those applications on Chromebooks, nor are the devices powerful enough to properly support the apps," Kolb says.

SCRIC is considering an application streaming service like Amazon AppStream 2.0, which would allow students working from home to access needed applications from any device. This way, students can get the tools they need for these specialized classes, regardless of whether they are in the classroom or at home.

Leveraging Amazon AppStream 2.0 can also help SCRIC evolve the way it approaches education beyond the pandemic. By providing students access to these applications anytime, anywhere, from any device, schools can save physical spaces like computer labs for other purposes. They can also save money on hardware costs. Students who might need extra time to complete assignments (whether due to absences or 504 accommodations) will be able to do this work from home, without relying on school labs that are only open during specified hours.

"AppStream 2.0 is the perfect solution to solving some of these scenarios," says Kolb.

Enriching education

For SCRIC, an accelerated move to the cloud and cloud-based solutions has been one positive that has come out of the turmoil of the pandemic.

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SCRIC sees a clear connection between its collaboration with AWS on various solutions and achieving its mission of empowering schools by delivering innovative technology solutions and exceptional support.

With standardized solutions across its school districts, SCRIC can also put more energy into providing an even better learning experience for students.

"We are here to help our learners learn and our teachers teach," Sage says. "And that has been the mission of everything we are doing with AWS. How do we improve the ability for the teachers to get access to their materials easier, share their materials easier, have faster and better infrastructure? Everything we're doing behind the scenes is trying to position technology to make their lives a little easier."

This piece was developed and written by the Center for Digital Education Content Studio, with information and input from AWS.

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FOR: aws

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