

NEWS



## 5 key network steps for supporting educational technology in 2019

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Today's IT directors need to be smarter than ever about emerging technology

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### **5 key network steps for supporting educational technology in 2019**

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Today's K-12 students are coming to the classrooms toting three or more mobile devices, from smartphones and laptops to tablets and smart watches. Teachers are putting more of their educational content online and streaming it to their students, administrators are storing more student information in the cloud, and district officials are automating more of the schools' operations. There is the Internet of Things, digital signage, and video being used to monitor cafeterias. Technology continues to shape the future of how we educate our children and operate our schools, from flipped classrooms to the use of augmented and virtual reality.

At the center of all this is the network, and more and more the wireless network. Where connectivity was once a nice luxury, it is now a must-have, and increasingly the focus of many school district CTOs is making sure that those networks are up 24 hours a day, seven days a week, and that they're secure.

Here are five network issues that tech directors must focus on.

#### **1. Casting a wide net with the network**

Picture a school district with 160,000 students who each have three mobile devices; that's almost a half-million devices that need to be supported, regardless of the platform they run on. Teachers and staffs also have their own devices, and the one-to-one program may include different devices for various grade levels.

The wireless network needs to be agnostic, able to support whatever device and platform is brought in by the students or used in the curriculum. School CTOs must ensure their networks are sustainable and flexible from the beginning, because the worst thing that can happen to a technology department is to go down one path and find out that the superintendent is buying iPads. If the network doesn't already support Apple iOS devices, changing directions can be costly.

## **2. Keeping the network up and running**

Students, faculty, and staff need to access the network at all times of the day and night from both inside and outside the school facilities. Flipped classrooms call for students to be able to view instructional content outside of the classroom. Teachers increasingly want to live stream video into the classroom and more and more content and information is being stored in and accessed through the cloud. In addition, state testing is now done year-round. A district's network must be up and running at all times.

Administrators are increasingly leveraging tools—often automated tools—that allow districts to proactively troubleshoot and resolve issues. There are a lot of components between mobile devices and the core network and if something happens to take the network down, it can take time for the tech staff to find and solve the problem. A network management tool that gives instant visibility into the network, proactively monitors a network's health, and can instantly pinpoint any issue and give guidance on how to fix it is invaluable.

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## **3. Securing the network and protecting privacy**

School districts are not immune to cyber threats like ransomware. Going hand-in-hand with managing the networks is protecting them. The visibility tools that help administrators find network problems also can help detect attacks. Content filtering and firewall technologies also are being leaned on to help protect the networks and the apps and data that run over them. And with districts continuing to be hacked, administrators are evaluating cybersecurity insurance to protect them from the millions of lost dollars an attack can lead to.

In the same vein, IT leaders are addressing privacy. More and more sensitive information about students is being stored in the cloud and that data needs to be protected. I'm working on a certification class around student data privacy in the cloud and CTOs here in Texas are developing a proposal in which all districts are agreeing to not buy software products unless those companies state how they're going to protect the student data and not resell it.

#### **4. Revving up the network**

Students, teachers, and staff expect to have the same level of performance from their school networks that they see at home, in hotels, and other places. School districts are continuously looking at how to make their networks faster to not only meet the demands of users but also of the new generation of applications that are coming out. We are looking at 802.11ax, the upcoming wi-fi standard that will bring speeds as much as 10 times faster than current networks and reduce bandwidth congestion. The challenge is staying abreast of developments and trends as we design networks and making sure we can pay for them.

#### **5. Tapping into new technologies**

There is no shortage of new technologies that will make life much easier for school districts. Artificial intelligence (AI) will be crucial in a wide variety of ways, such as finding patterns and detecting anomalies in the network more quickly. If there is a crush of traffic coming onto the network from a site in China or at 2 a.m., AI technology will be able to pick that up quickly, analyze the information, and take steps to protect the network. Likewise, facial recognition with security cameras will be able to find people who maybe shouldn't be in the school. Augmented and virtual reality are starting to play a larger role in classroom instruction.

The Internet of Things will also have a significant impact on K-12 schools. It will offer the opportunity for a more engaging, personalized, and interactive learning experience for students; provide updated, real-time information by bringing together data from disparate systems—everything from student demographics and curriculum to assessments and standards—and improve communication between students, staff, and parents. In such a highly distributed environment like IoT (in which there will be an estimated 31 billion connected devices worldwide by 2020), the network will play a crucial role in tying everything together.

All of these emerging technologies are being evaluated, but the real challenge is finding the money to pay for them. There's only so much money available and administrators have to determine how much to spend on instructional tools vs. technology tools. When we talk about classrooms and schools of the future, technology plays a central role in what they will look like. The key to all of it are networks that are always up, always accessible, and always secure. As we go through 2019 and beyond, the network will be a focus of everything we do.

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