



Red River

**HOW RED RIVER'S ACCESS-EDU  
DEMONSTRATES THE POWER OF PRIVATE LTE**





Today's educational institutions face widespread challenges. As early as 2018, 18.7 percent of higher education students had at least one of their classes online, and 16.6 percent of students were **exclusively** online. At the same time, 21 percent of public elementary and secondary schools offered online courses, and 13 percent of private schools offered online courses. These numbers are constantly growing. Students from K-12 and on are now used to performing at least **some** of their tasks online, usually through the school's own online infrastructure.

Even for schools that are not exclusively online, online functionality is critical. Today, students take tests and quizzes online, whether in school labs or at home. They complete homework online, saving it to cloud networks, and submitting it through online submission processes. They have discussions online — and they conduct communications with their teachers through email and forums.

But what happens to students who aren't able to connect? What happens to schools that aren't able to maintain reliable, fast internet access?

Just as internet access has improved the productivity of many students, it has also introduced some issues. But these issues aren't insurmountable. With new technology, such as private LTE service, schools can ensure that all their students are able to connect.



# **PRIVATE LTE: PROTECTING REMOTE STUDENTS AND IMPROVING EDUCATIONAL SECURITY**





In the United States, more than 9 million students don't have internet access at home. That doesn't count the number of students that have slow or intermittent internet access. As school becomes more remote, these students start to struggle when compared with their peers. Students who are in rural areas may have expensive, metered internet access, may not have the speeds to engage in peer-to-peer video conferencing, or may not be able to connect at all.

Private LTE is a vital solution.

Private LTE networks are wireless, cellular solutions that can be distributed even to remote students — as long as they are within range of a cellular signal. Private LTE operates similarly to a private WiFi network, but can be distributed geographically, so the institution can create a network that is both protected and safe.

A few of the advantages of private LTE networks include:

- Private LTE networks have compelling advantages over outdoor wifi solutions.
- Private LTE networks can provide better mobility and point-to-point connectivity.
- Private LTE networks are more affordable for large institutions than public LTE.
- Private LTE networks do not require advanced or unique technology.





For remote students, LTE gives them the same technical access as their peers. For other students, LTE provides advanced security and consistency. Everything can be done through the private LTE network — which can be connected to their existing devices. This also means that schools don't need to spend an expensive amount of money deploying new endpoints to students.

When students have better connectivity, they are more likely to have positive outcomes in their connectivity. This is especially important for students who may feel isolated in rural locations — they will be able to connect with not only their teachers, but also their peers, much more easily. Students will be able to more consistently complete their homework and tests, will feel more engaged in their work, and will be able to get the help they need if they need it.

Today, private LTE networks are being used for a multitude of applications and industries. Unlike public LTE networks, they are a single, protected network, like a WAN. Public LTE networks may have greater latency and lower speeds because they are serving the entirety of a community, whereas private LTE networks dedicate their resources to the organization — in this case, an entire school district.

As internet speeds increase, technology advances, and 5G technology becomes more commonplace, the feasibility of larger-scale private LTE networks grows, too. This comes just in time for many students who are being asked to complete the majority of their coursework online for the first time in their academic careers, thanks to the 2020 COVID-19 pandemic.





## HOW DOES PRIVATE LTE WORK?

One of the major benefits to a private LTE system is that it is not difficult to set up — and it's intuitive for the students and teachers who use it. For end-users, there's very little difference between using a private LTE network and a WiFi network.

To set up a private LTE system in a school:

- Access points are deployed across the designated area and campus.
- Data and signaling may be deployed either locally or on the cloud.
- Secured SIM cards or eSIM cards are used for end-user devices.

When properly designed, a private LTE system should be no more complicated for the end-user than a traditional WiFi system, but it will be more secure and stable. It's this security and stability that is offered through the private LTE services of Access-EDU.





# THE BENEFITS OF ACCESS-EDU



Developed by Red River, Access-EDU is a full, private LTE network solution for K-12 school districts. Through the cellular network of Access-EDU, students can connect directly to the school's infrastructure, accessing applications and internal resources. Student data can be kept safe and secured, while both students and teachers alike will have easy connectivity to everything they need to remain productive and achieve their best.

## **IMPROVE CONNECTIVITY ON CAMPUS**

Not everything is going remote. Even today, the majority of schooling is being done in-person, with online learning being provided as an augmentation. Private LTE systems can either replace or work together with school-wide WiFi, making it easier for students to obtain connectivity on a secured network within the school's walls. All the advantages of private LTE — such as improved security and filtering — also apply to the internet access provided on campus.

## **GIVE STUDENTS WIRELESS TECHNOLOGY AT HOME**

With private LTE, students throughout the district will be able to connect through smartphones, tablets, laptops, and other devices. There are many students who are struggling with sluggish internet connections, or who may not even have internet access at home. Private LTE connections empower these students to learn, giving them equal access compared to other students, and ensuring that all students have a consistent, uniform experience with the institution's network.

## **PROVIDE A SECURED AND PROTECTED NETWORK**

WiFi connections have many known vulnerabilities. Students who are connecting to WiFi at home may not have properly secured their connections, and they may consequently be sending out private data in an exposed format. Students connected to school WiFi may access areas of the internet that they shouldn't be in, thereby exposing the entire WiFi system to risk. These problems with WiFi are very well established, but they can be largely countered through the use of private LTE.

Through private LTE, students are always connecting through a protected, secured connection, because they have no choice but to do so. They are not able to potentially put the network at risk, because they are blocked from anything that they shouldn't have access to. This is especially important as many students and teachers are only now doing a large amount of their coursework online, and therefore may not be aware of all the risks.

Private LTE improves upon the technology and security of WiFi, while also making it far broader in scope; unlike WiFi, private LTE networks aren't just cross-campus. Private LTE networks can operate across the entirety of the district.





## **FILTER AND FOCUS INTERNET USE**

In addition to securing data and protecting privacy, private LTE networks can filter all the data to ensure that students don't gain access to inappropriate materials. Not only does this protect the school network from abuse, but it also ensures that students are paying attention to their coursework and aren't distracted with recreational activities.

Modern students are distracted. The average student will check their digital devices around 11 times a day. During the course of an already restricted school day, this can be significant. When students are spending all their time online with online courses, they are likely to start multi-tasking and engaging in recreational activities. But private LTE networks filter out anything the students shouldn't be accessing, and also provide a record of access — to make it easier to detect the sources of problems later on.

With private LTE networks, students will consequently be far more likely to pay attention, and far less likely to engage in behaviors that could be potentially inappropriate or damaging to the network.





## ADHERE TO CIPA, COPPA, FERPA, AND HIPAA STANDARDS

Private LTE is a solution for everyone. But through Access-EDU, private LTE networks can be customized to meet Children's Internet Protection Act standards, as well as FERPA, HIPAA, COPPA, and other regulations. This ensures that the network is adhering to both regulatory standards and internal privacy and security standards. For medical applications, for instance, HIPAA regulations are the most important.

Not only are students on the internet, but administrators and teachers are, too. Students, administrators, and teachers all have access to highly private, highly regulated information. But when everyone is online, they are using devices that may not have been vetted and connecting to the system with endpoints that may not be adequately protected. Thus, it becomes very easy for them to accidentally share confidential information, or for the information to get stolen from them.

Educational institutions are some of the most highly hacked. They contain a tremendous amount of personally identifiable information, they have thousands upon thousands of end-users, and they are often secured with outdated or legacy solutions. Having a secure internet connection is one of the first requirements for securing a network, and will ultimately lead to fewer security incidents on behalf of the organization.





## GETTING STARTED WITH PRIVATE LTE THROUGH ACCESS-EDU



Private LTE solutions operate very much like WiFi, but they have major advantages when it comes to geography and scale. Private LTE networks can provide complete, all-in-one, consolidated resources and applications for students both on-campus and off, eliminating the differences between distance. When properly used, private LTE networks will serve as an equalizer for rural students, while also ensuring that in-person students get access to the information they need without the distractions.

While private LTE solutions are quickly growing in all industries, they are particularly useful in industries that prize security and privacy: education, healthcare, and finance. In these industries, private LTE also provides for superior security and protection.

Still, these are only some of the benefits of private LTE solutions. Private LTE solutions can do a lot to modernize a school's network infrastructure, streamline security and administration, and improve upon the ultimate user experience for students, teachers, and administrators. Through a managed services provider, organizations are able to acquire advanced, private LTE technology, without the headaches of having to manage their network infrastructure themselves.

If your school is struggling to provide students and teachers with the connectivity they need, there's an answer: It's Access-EDU. If you're thinking about private LTE, [contact Red River](#) today.





## ABOUT RED RIVER

Red River brings together the ideal combination of talent, partners and products to disrupt the status quo in technology and drive success for business and government in ways previously unattainable. Red River serves organizations well beyond traditional technology integration, bringing 25 years of experience and mission-critical expertise in security, networking, analytics, collaboration, mobility and cloud solutions. To learn more, visit [redriver.com](http://redriver.com).