

Access-EDU Delivers Reliable, Flexible Connectivity to Students



Red River has developed a network solution for K-12 school districts struggling to provide internet connectivity to their remote student body. Access-EDU leverages private LTE technology to create a cellular-based network so students can connect directly to their school's internet to access internal resources and applications. Access-EDU not only provides connectivity over a wide geographical location, but also has the same security protocols to keep students safe. Overcoming the challenges of connectivity is critical for providing equity of access to all students.

COVID-19 forced school districts all over the country to move to remote learning. This presented many challenges for both students and teachers, not the least of which was access. The physical school provided a certain level of equity for students, giving them access to the same tools and materials. At home, access to wifi or internet can prove difficult for students who don't have reliable internet connectivity. The divides between rural and urban, poor and middle-class become pronounced, and can substantially affect learning.

Even as the COVID threat dissipates, another spike or future pandemic could force school districts to resume remote learning. In these scenarios, students without reliable home internet will simply lose access to school resources. Districts need to proactively plan for any future disruptions while ensuring that every student has access regardless of their household internet connection. Any plan will have to account for students participating from home.

Red River has developed Access-EDU to bring private LTE technology to struggling school districts. Private LTE networks represent a promising, long-term solution for K-12 schools: a cellular-based network capable of reaching a wider area—allowing for expanded data capacity, increased speeds, and greater security. Access-EDU can be quickly deployed in rural school districts and costs less than purchasing or leasing multiple hot spots for students.

Bringing the private LTE model to schools

Private LTE (pLTE) technology is a cellular-based network that relies on Citizens Broadband Radio Service (CBRS) frequencies to reach a wider geographical area. Instead of using their home internet connection, the pLTE networks uses cellular data from customer-owned equipment (cellphone, tablets, etc.) to access the school's private network infrastructure.

This model provides a cellular network that students can access with local resources, and it has the same security, access and capacity as on-site WIFI. Even districts in rural or remote areas can use pLTE to increase coverage to ensure that students can connect from anywhere. pLTE networks are proving to be a long-term solution for many school districts that have struggled to connect to students during the COVID-19 pandemic.

pLTE networks go beyond connecting students and teachers, they provide safe and secure access to the school's internal resources while maintaining a filtered internet. School administrators don't have to worry about whether their students are accessing inappropriate resources when they provide immediate LTE connectivity. And rather than having to purchase additional equipment for every student, the private network can be accessed via a smartphone, tablet, or computer.

Schools can also customize their pLTE network so it adheres to the Children's Internet Protection Act (CIPA) standards. Requirements like FERPA, HIPAA, and COPA can also be supported with a Private LTE by extending the security parameters.

USE CASES



Schools

- Student wireless at home
- Wireless on buses
- Surveillance
- Security
- CIPA complaint



Hospitals

- Mobile coverage
- Secure medical equipment
- Surveillance
- Security



Smart City

- Surveillance
- Police use access
- Mobile video offload
- Ambulance coverage

PRIVATE LTE TECHNOLOGY

Wi-Fi is the standard for connecting devices, and has transformed the way we work, learn and play. However, limitations on capacity, reach and security make wi-fi a less-than perfect technology. Recent increases on demand – from both users and devices – have further tested Wi-Fi's ability to keep up.

Private LTE uses dedicated equipment and is independent of traffic fluctuation. By focusing on specific applications and services, the private LTE network can be tailored for optimized performance such as low latency, better service and wider coverage. The new era of private LTE opens multiple opportunities and access to applications with a different class of service. This can empower enterprises, smart cities, stadiums, even entire industries to rethink how, when and where we can access the internet.

Private LTE can be deployed anywhere, including areas beyond the reach of public mobile network operators while keeping sensitive data on premises for security assurances. It enables organizations to customize their networks for mission-critical applications, optimize the network, and support specific service level agreements all without interference from the often-congested public wireless spectrum.

A private LTE network built with the Citizens Broadband Radio Service (CBRS) frequencies introduced by the FCC can offer greater range, capacity, security, and interoperability at a fraction of a price compared with existing solutions.

The private LTE solution building blocks are:

- **Backhaul:** CBRS LTE Access Points which can be deployed over any backhaul installed at the designated area or campus.
- **Core:** Dedicated Evolved Packet Core (EPC) elements (cloud, local or mix) with a self-service console and full API access. Data and/or signaling remains local or goes to the cloud.
- **SIM:** Secure SIM card or eSIM chip contains the cellular profile according to the client needs providing a secure cellular connectivity to/from the end device.

The solution supports specific organization requirements and traffic type optimization independent of the public cellular network providers (e.g., low latency guarantee for mission critical applications). The solution is suitable for enterprise use cases such as universities, parks, stadiums, ports, mines, airports, factories and more.



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