

Nebraska Indian Community College Uses Baicells to Rapidly Deploy a Private LTE Network During COVID-19



Overview

Nebraska Indian Community College (NICC) provides a culturally-infused learning environment dedicated to bringing state-of-the-art facilities to students. Established in 1973, NICC was created to provide post-secondary educations to residents on the Omaha, Santee Sioux, and Winnebago reservations. Today, the institution is accredited at the associate degree granting level, with three campuses located in North East Nebraska. The college continues to serve and create life-changing opportunities for students by providing a variety of cultural, educational, and social resources to isolated and economically underdeveloped areas in Nebraska.

One of the most recent of these resources is a new, private LTE network built by the college to provide its students with reliable Internet connectivity. The new network was integrated by Red Rover Ltd., which utilized the Baicells CloudCore Evolved Packet Core (EPC) and 2.5GHz base stations, and paired with a variety of user-end devices. This allowed NICC to be able to rapidly deploy its own network during the pandemic and begin to bridge the homework gap.



The Nebraska Indian Community College provides quality higher educational opportunities for Umo'ho' (Omaha), Isanti (Santee Dakota) and all Learners.

The “Homework Gap” Problem

COVID-19 has had a devastating effect on many people around the world. Rural and economically disadvantaged areas that commonly lack Internet infrastructure have been hardest hit with these changes brought on by COVID-19, because activities of daily life can't seamlessly continue in isolation. This is particularly evident in Nebraska, where several officials were alarmed about the width of the “homework gap” even before the COVID-19 outbreak occurred.

Currently, twelve percent of children in Nebraska do not have any internet access, which is the result of several factors, including lack of high-speed communications capabilities, network reliability, affordability and access to devices that can connect to the Internet. For NICC, the problem was particularly acute as most of the students are rural residents without access to Internet providers. Even if students do have access to Internet, the cost is often prohibitive, ranging from \$70-\$120/month. Without access to reliable Internet, students are unable to participate in online courses and continue working to achieve their educational goals. The impact presented by lack of connectivity to areas most needing continued economic development is immense.



NICC Builds the Bridge

NICC campus locations are each supported by a fiber backhaul that provides students on campus with a reliable, fast connection. However, this Internet connectivity is limited and unable to extend much beyond campus property. As NICC leaders continued to recognize ongoing challenges their students faced because of this lack of connectivity, they decided it was time to find a solution, but it had to be cost-effective and rapidly deployed in order to keep classes on schedule. These requirements automatically disqualified any wireline solutions – they take too long to implement. However, NICC (working with Red Rover Ltd.) was granted access to 2.5GHz broadband spectrum by the FCC on an Educational Broadband Spectrum (EBS) license.

To complement their state-of-the-art facilities, NICC used the existing fiber backhauls and their access to broadband spectrum from Network Nebraska to build a new, private LTE network. Baicells offers LTE as a very affordable alternative to other solutions. NICC chose the Baicells 2.5GHz base station due to the equipment's low cost, product availability, and ease of deployment. The Baicells CloudCore EPC further lowered the startup costs and increased the speed at which the equipment could be deployed. Red Rover Ltd., installed base stations at each of NICC's campuses and paired them with a variety of user-end devices at students' homes.

"Red Rover was able to work with NICC and the five K-12 districts in Nebraska to identify our needs," said Michael Oltrogge, President of the Nebraska Indian Community College. "We chose Baicells for their cost effectiveness, and their easy and rapid deployment capability to ensure our K-12 students could continue their educational pursuits during the COVID-19 pandemic." Once the new school year starts, NICC will be able to directly connect students to affordable Internet. Through the partnership of Red Rover Ltd., and Baicells, NICC has truly been able to "connect the unconnected" with an economical and reliable communications solution.

