

CASE STUDY

How a Kansas ISP swiftly leveraged CBRS to connect a rural community





Image: Greenwood County, KS

Backed by a strong team, Velocity launched a fixed wireless network in under three months.

One lesson COVID has taught us is that rural connectivity during a pandemic is critical. [Velocity](#), an internet service provider based in El Dorado Kansas, took advantage of the Citizens Broadband Radio Service (CBRS) and utilized [BLiNQ Networks' CBRS radios](#) and [CommScope's Spectrum Access System \(SAS\)](#) to rapidly provide high-speed internet access in the Greenwood County region. Completed within three short months, they worked with [PCS Technologies](#) on a shovel-ready design-build, which was integral to getting the project off the ground in record time. Velocity enlisted a solid team, who was prepared to help them meet this challenge.

Velocity, a division of [Butler Electric Cooperative](#), was established to provide high speed internet to Butler Electric's membership and surrounding communities. The experience of many communities throughout the pandemic has been the immediate need for adequate and reliable broadband access to the internet – for distance learning, telehealth, telework, emergency services, connecting with friends and family or purchasing goods when stores have been closed. In the case of Greenwood County, there was an imminent need to provide connectivity where it was heavily lacking.

Prior to utilizing CBRS, Velocity was primarily using the 5 GHz unlicensed band for fixed wireless access. The hilly terrain and low-density population of Greenwood County presented several obstacles to obtaining good quality connectivity, such as distance coverage and various difficulties due to terrain blockage. The obvious course of action was to find a better technology that could meet these challenges.



The Process

EVALUATING CBRS

Velocity evaluated the new CBRS band and felt that it was an appropriate solution given CBRS's LTE (Long Term Evolution) capabilities and could offer good quality of service to customers across a greater distance. The spectrum sharing scheme offered by CBRS meant ample bandwidth was readily available with minimum spectrum procurement cost. General Authorized Access (GAA), which is the lightly licensed part of the CBRS band, would easily support the coverage area.

ACQUIRING FUNDING

Velocity applied for the Connectivity Emergency Response Grant (CERG) created by the State of Kansas under the CARES Act in September 2020 and was awarded the funds to deploy a solution to serve the eastern part of Butler's electric territory. One of the conditions of the grant was that the funds had to be used by January 2021. Velocity had to move quickly to select the best technology solution and the partners that would help them succeed.

TECHNOLOGY SELECTION & DEPLOYMENT

Over the course of three months, Velocity marketed the upcoming service, deployed the technology, and went live with their solution in record time. The first customers were connected on December 16, 2020. Velocity worked with their long-time integrator partner PCS Technologies to select, evaluate and build the most appropriate solution. Together they decided that BLiNQ Networks' hardware was the ideal solution because it overcame distance and line-of-sight issues. PCS was instrumental in the successful installation of the network because of their deep understanding of Velocity's pre-existing network. The BLiNQ equipment required the SAS service in order to operate in the CBRS band. Velocity closely coordinated with CommScope's SAS team who provided guidance on CBRS rules and spectrum availability analysis for the targeted deployment areas.



Image: Greenwood County, KS



Why Velocity Chose BLiNQ Networks

PCS Technologies recommended BLiNQ as an obvious choice for CBRS-ready hardware. Aside from the superior non-line-of-sight (NLOS) capabilities that BLiNQ offers, the solution was highly scalable, and the price point was ideal for Velocity. Kirk Day, Operations Manager at Velocity, says that the BLiNQ team were highly responsive and supported the deployment throughout the process.

“The BLiNQ support team were easy to work with and were always willing to help. For the CERG project, they were the perfect partner, at the perfect time,” Day said. Through PCS, the ease of deployment was a positive experience for Velocity, which allowed them to meet their tight timeline per conditions of the grant.

Velocity opted to use several [BLiNQ FW-300i base stations](#) and [CPEs \(Customer Premises Equipment\)](#) to create the foundations of their LTE network. The FW-300i is an all-in-one integrated solution – which is basically the ‘internet in a box’. It is a low-cost, high performance macro base station with small cell dimensions and small cell price, delivering the best cost per gigabit in the industry.

“The pandemic has made it very clear that fixed wireless is one of the most efficient and cost-effective solutions to overcome broadband connectivity challenges in rural America,” says Patrick Buthmann, vice president of Sales and Business Development at BLiNQ Networks. “We are seeing more of our solutions being utilized in the utilities sector, within educational institutions and enterprise applications. What we see Velocity doing with our solution is only one of the many ways we can harness CBRS to address the digital divide.”



How Velocity Selected Their SAS

Velocity has been a longstanding CommScope network infrastructure customer. Upon learning that CommScope was also a SAS provider and came highly recommended by PCS Technologies, CommScope was the natural choice for Velocity. Kirk Day said that **“The CommScope team was great to deal with. The information they provided was very helpful and they are easy to work with.”**

“We are proud to be a Velocity partner in this worthy project. It has been our SAS team’s mission from day one to help underserved communities harness the power of CBRS for reliable connectivity,” said Chris Hardy, vice president for the CommScope SAS business. “CommScope continuously rolls out new SAS features to provide better value to its customers such as Velocity. Our recently released [Quick Grant Authorization feature](#), for example, significantly increased the speed of radio channel grants. Previously installers had to wait overnight before a new radio would be granted a channel, now its immediate.”



Current State and Future Outlook

“As with any new build, there are unforeseen challenges,” Day laments. However, the process has been smooth because of the solid teamwork between all the parties involved. **“They have been working side by side with us to maximize the efficiency of our network and answer any questions we may have.”**

By the end of 2021, Velocity estimates that they may double the size of their BLiNQ network since the initial deployment. **“We will continue to integrate CBRS into our network,”** says Day. The fixed wireless access solution using BLiNQ hardware and CommScope SAS has proven to be a successful deployment thus far, and the outlook is positive for improving connectivity in rural America.



Image: Greenwood County, KS

About BLiNQ Networks

BLiNQ Networks is a pioneer manufacturer of CBRS-ready fixed wireless hardware, building the technology to provide essential internet connection all over the world. We provide industry-leading price and performance in LTE and 5G solutions, driven by a talented team who develop all our hardware and software products in-house from Ontario, Canada.

About CommScope

CommScope (NASDAQ: COMM) is pushing the boundaries of technology to create the world's most advanced wired and wireless networks. Our global team of employees, innovators and technologists empower customers to anticipate what's next and invent what's possible.

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