

Adaptrum

Mid-Atlantic Broadband
Virginia, USA



Closing the Homework Gap with TV White Space

Mid-Atlantic Broadband deploys Adaptrum to extend internet access to student's homes

Mid-Atlantic Broadband Communities Corporation (MBC) is middle-mile provider in Virginia. Since its founding in 2004, MBC has focused its mission on promoting economic development and bridging the digital divide in rural communities across Virginia.

As instructional methods and technologies advance to include online learning and digital resources, access to internet has become a vital part of every child's education. To address this need, MBC's backbone currently provides fiber connectivity to 159 schools giving students in the region access to the high-speed internet during school hours. However, many students in this rural area lose vital access to online educational material when the school day ends and they head home. This "homework gap" puts students at a disadvantage compared to peers in urban areas where broadband at home is readily available and affordable.

To address this important problem, MBC, in partnership with Microsoft, launched a program to provide free internet service to student homes over the largest deployment of TV White Space (TVWS) to date in the United States. With rural populations, hilly terrain, and an abundance of trees, TVWS provided a broadband technology that could economically extend the broadband connection at the school to reach many of the surrounding homes that lacked affordable internet.

“ The benefits of Adaptrum gear are pretty prevalent here in rural Virginia because the topography doesn't allow for some of the other technologies to work quite as well as TV white space. ”

- Jeremy Satterfield, Dir. Outreach and Innovative Programs, MBC

After evaluating and piloting various equipment options, MBC selected Adaptrum's TVWS solution based both on the performance and reliability of the TVWS network as well as Adaptrum's focus on innovating to further improve coverage and speeds to connected families.

Summary

MBC and Microsoft partner with school districts in rural southern Virginia to create largest US TV White Space network providing free internet access to student's homes.

Requirements

Broadband technology that could deliver broadband in the hills and trees of rural Southern Virginia

Solution

MBC deployed Adaptrum high power TVWS basestations at school and tower locations along with ACRS2.0 client radios at student's homes

Benefits

- Long-range Non-Line-of-Sight (NLOS) broadband connectivity
- High power basestations maximize coverage from tower locations
- Easy to install client radios

Results

MBC is providing coverage to approximately 1,000 homes across two counties



The first phase of the program has been launched in two counties, in partnership with Halifax & Charlotte County public school districts, which both have a general lack of widespread affordable broadband options. The first phase of the network is comprised of 18 sites each with typically three sectors using Adaptrum High Power Base Station radios. Providing long-range none-line-of-sight coverage from school and tower locations, the network can reach over 1,000 homes, which will receive internet using Adaptrum's ACRS2.0 client radios. With Adaptrum radios reliably providing both the necessary coverage and speed, Jeremy Satterfield said, "The functionality of the equipment has been pretty steadfast."

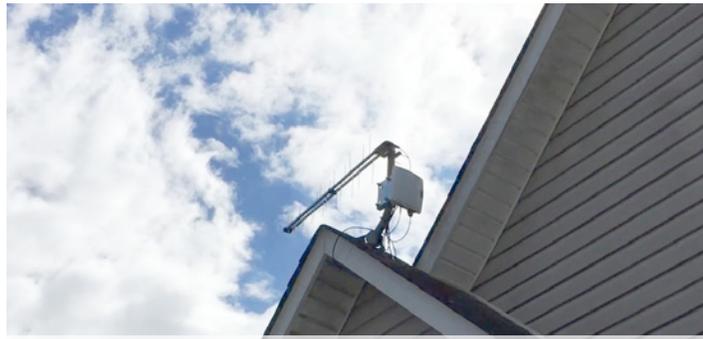


Extending school broadband to surrounding homes

school or libraries in order to get online to complete assignments. After receiving TVWS-powered internet at home, the family can now spend more quality time together. With over 100 households connected and many more families signed-up, every student will be able to access unlimited educational content at home improving not only their education, but also their quality of life.

“ We know that just having the connection available is allowing these kids to work and do some different things outside of the normal, traditional hours. ” - Jeremy Satterfield

Following the success and positive impact of the initial phase, MBC plans to not only expand the TVWS network with Adaptrum equipment to surrounding counties, but will also offer a service option, where MBC will sell commodity-based Internet for students and their families that will be set up by third-party provider partners. The paid option will offer full web access, not restricted solely to educational content.



ACRS2.0 client radio at student home

The Adaptrum team worked closely with MBC to understand the unique topography of the region and to determine the best solution for reaching as many homes as possible. Commenting on the project, Jeremy Satterfield said, "Adaptrum has been a tremendous partner as we look at closing the homework gap in Virginia. Not only have they provided key guidance on using TVWS wireless, but have worked closely with us to ensure the best service to student homes."

“ Adaptrum's been great. We've been really impressed with how their senior leadership has committed to make this project a success and does whatever they can to make it work. ”

- Tad Deriso, President & CEO MBC

The TVWS connectivity immediately provided a positive impact. The very first installation went to a family of three children whose mother was a teacher. Before receiving the system, all four had to spend many evenings at



Basestation Tower at Bacon Elementary School

About Adaptrum

Driving both technical and regulatory innovations, Adaptrum has pioneered the use of previously underutilized TV White Space spectrum. Founded by leading experts in wireless communications, our creative and experienced team is committed to fundamentally changing the wireless industry and enabling universally affordable broadband.