Siklu

2023

CASE STUDY

digitalC
Driven to Connect

Further Progress on Closing the Digital Divide in Cleveland – DigitalC Again Teams with Siklu for the New "Phoenix Village" Project

7ITGSTSCD5

Project Background

It is well documented how economies thrive or wither, in direct correlation to the broadband services available to residents. Cleveland, historically ranked as one of the “least connected” cities in the U.S., is no exception.

DigitalC was founded in 2015 with a mission of connecting thousands of residents to true high-speed internet. In 2019, the Wireless ISP EmpowerCLE+ was launched by DigitalC to deliver not only high-speed connections but also training for those less versed in the digital economy.

DigitalC is a nonprofit technology social enterprise headquartered in Cleveland at the MidTown Tech Hive and its fixed wireless internet network currently reaches 23,500 households in the City of Cleveland. DigitalC is headed by CEO Joshua Edmonds, who joined the organization in November 2022. He previously served as the Director of Digital Inclusion for the City of Detroit.

Connectivity in the Absence of Fiber

As is the case in many urban areas, DigitalC’s customers live in areas where network infrastructure is poor or non-existent. These areas have been ignored historically by the incumbent service providers. As a result, there are no fiber optic lines to tap into to facilitate the delivery of broadband internet to homes in these areas. "The Phoenix Village Project is a great example of how we can leverage mmWave technology in the middle and last mile to provide ultra-high speeds to the end customer at an affordable price without having to trench to build fiber," said Rolando Alvarez, DigitalC's Director of Technology. "Using Siklu in this deployment we are able to provide Gbps speeds with an average latency of 2ms back to our Core."

Project Overview

Siklu has been working with DigitalC since 2016 and has surmounted these obstacles with its leadership in mmWave technology. In 2020 DigitalC expanded its relationship with Siklu to include network design, deployment, installation, and commissioning services – in essence, taking on “turn-key” projects to make things easier for DigitalC and its customers. One of the first joint projects was completed in November 2020 and connected 100 single-family and MDU residences, using both Siklu EtherHaul 8010 and MultiHaul units.

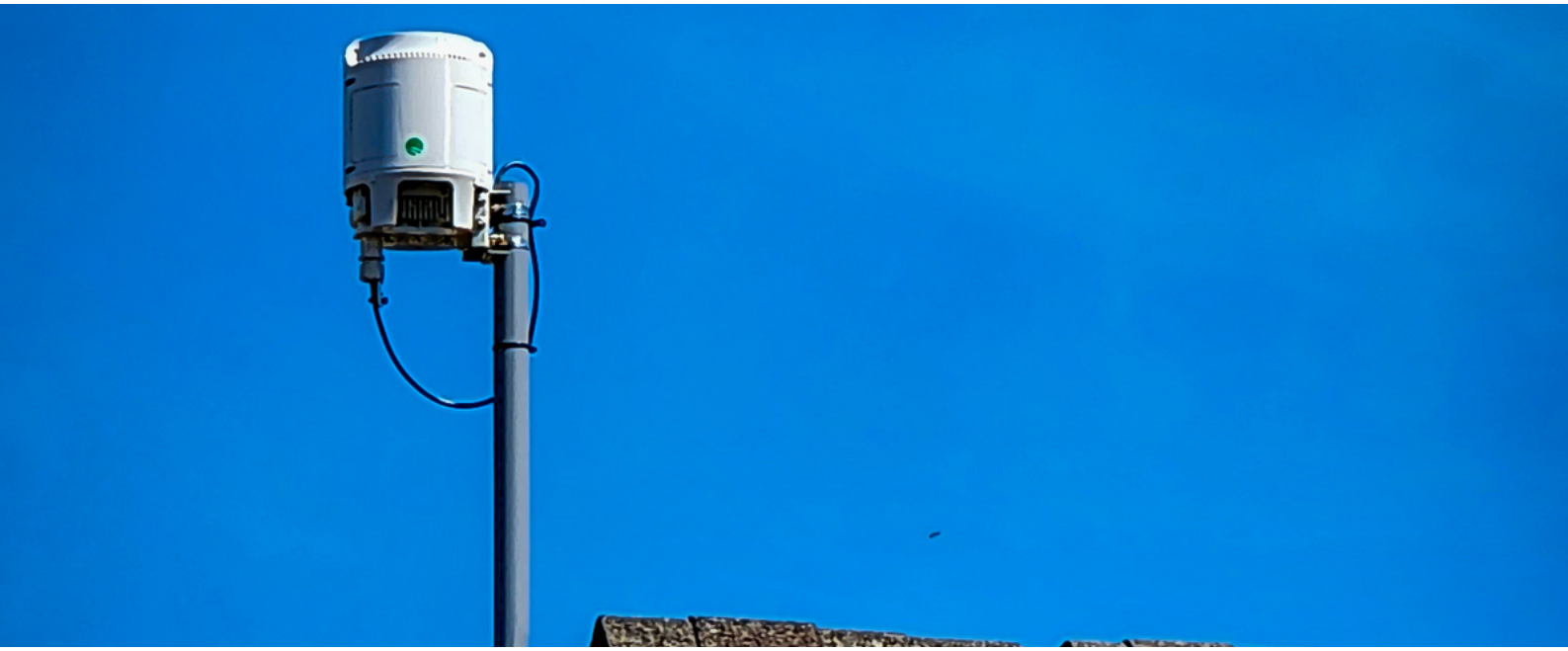
And this work has made a true difference in peoples’ lives, with residents reporting that the fast Internet helps them tremendously with tasks such as finding housing online, keeping informed with various news apps, and relaxing with online games and e-books. As one resident commented: “Everything is online, pretty much, now” and having fast Internet now is convenient and “you can’t beat it!”

Since then, Siklu has consistently demonstrated its commitment to the success of the DigitalC initiative and, as a result, has been closely involved with their ongoing network rollouts. The latest project was completed in March 2023, for the Phoenix Village community operated by the Cuyahoga Metropolitan Housing Authority. As it has been over the years, the goal was to provide a highly-reliable, future-ready network infrastructure that could scale to Gigabit speeds with low network latency.

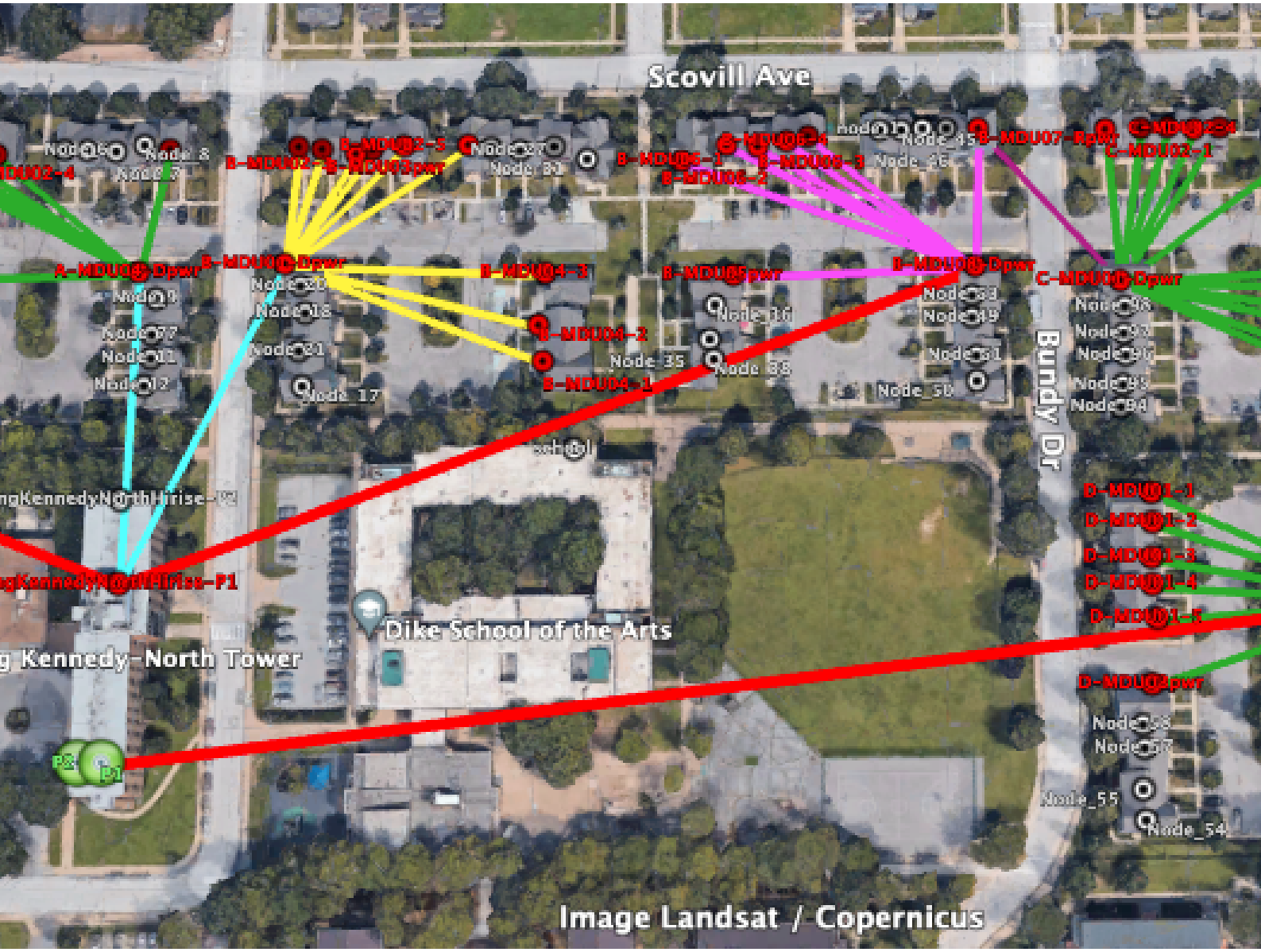
The Siklu Solution

Working in conjunction with its installation and infrastructure partners Olympus and Height Towers and longtime equipment distributor partner Winncomm (a local Cleveland company), Siklu deployed a network consisting of its MultiHaul™ TG Terragraph-certified solution for the access portions of the network and the EtherHaul EH8010FX for the multi-Gigabit core network. This work began after DigitalC completed the site acquisition process, which included fulfilling all lease and permitting requirements.

Initiated by Meta (then Facebook), the Terragraph solution is a multi-Gigabit wireless technology designed to meet the growing demand for reliable, high-speed Internet access in urban and suburban environments. It is particularly useful in fiber-poor areas, or areas that cannot expand the existing fiber footprint, such as in downtown areas with historic buildings and other zoning restrictions. Terragraph operates in the easy-to-use and unlicensed 60GHz band, which has plenty of interference-free bandwidth to deliver true broadband speeds (min 3 Mbps up and 25 MBps down). The lack of interference in this band also promotes a “five 9s” carrier-grade degree of reliability. Furthermore, Terragraph systems can be deployed at a significantly lower cost – and at a fraction of the time -- than installing fiber.



MultiHaul TG N366 distribution nodes were chosen as they feature 360-degree coverage and multiple client node options to fit a variety of deployment requirements. The N366 also provides 16 Gbps of total capacity and is installed on the roof of a centrally-located building in the area, as it has a line of sight to dozens of nearby apartment homes (see diagram below). Each home is supplied with a MultiHaul TG T260 or T265 terminal unit, which is connected to a router inside the home.



As noted in the diagram above, each of the five areas has its own distribution node, installed on a centrally located rooftop, except where a relay was needed. As a result, network coverage is balanced and trees were worked around to establish a clear line of sight for the residential connections. The only alternative technology used is CBRS wireless, which is used only in areas where higher network bandwidth is not needed and a clear line of sight could not be established.

"The Cuyahoga Metropolitan Housing Authority is proud to partner with MetroHealth and DigitalC to provide our residents of Phoenix Village with digital inclusion accessibility for both the youth, adults, and seniors that live in this community," said Jeffery K. Patterson, Chief Executive Officer of CMHA. "Over the past several years, CMHA has been committed to providing internet connectivity and technologies to create more inclusive communities and bring our communities into the world of digital transformation."

Future Projects

DigitalC has similar locations in the design process with Siklu and will continue to work with Siklu to close the digital divide.

"Solving the digital divide has been an ongoing challenge for Cleveland and our country for quite some time,'' said DigitalC Chief Operating Officer Jose Valdez. "At DigitalC, we look to connect families from all walks of life, some who have never had connectivity, others who are looking for more reliable and affordable service. With Siklu's product line of innovations, we have the ability to solve complex technical problems with great installation speed and cost. It is state-of-the-art wireless technology that is easy to use and is loved by our customers."

About Siklu

Siklu delivers multi-gigabit fiber-like wireless connectivity in urban, suburban, and rural areas. Operating in the millimeter-wave bands, Siklu's wireless solutions are used by leading service providers and system integrators to provide gigabit services, 5G fixed wireless, and safe city and smart city projects. Thousands of carrier-grade systems are delivering interference-free performance worldwide. Easily installed on street fixtures or rooftops, price-competitive radios have proved to be ideal for networks requiring fast and simple deployment of secure, fiber-like, and future-proof connectivity.ww.siklu.com.