



Success Story

Siklu MultiHaul™ Terragraph Shines in Rural Deployment for RedBox Wi-Fi in UK

Cost-effective, Gigabit-speed Wireless Supports Two-Day Agricultural Fair on a Farm in Lincolnshire

Background

[RedBox Wi-Fi](#) provide temporary managed IT services to their clients, who are event organizers and who run some of the largest and most prestigious events in the UK. Specifically, RedBox specialize in providing Internet connectivity to “green field” sites or venues, with green field meaning places where no such connectivity exists, other than perhaps via mobile phone. Even if it did exist, MNO-based Internet would never suffice for large scale events, or any event really, event producers need a true onsite network.

However, constructing such networks in these venues can be quite a challenge, as frequently no infrastructure to support it exists – everything needs to be “trucked in,” set up and powered up. RedBox oversees the whole process, from initial site visit and evaluation to turning over to the working network to

the customer. RedBox offer a range of state-of-the-art solutions for almost every conceivable situation – and one of the options is terrestrial wireless, specifically, microwave or millimeter wave (mmWave) systems.

Recently, the organizers of [Cereals 2021](#) turned to RedBox to set up a network on a farm in Lincolnshire that would support the necessary Wi-Fi connectivity for scores of exhibitors, onsite video streaming used for information kiosks and on-stage presentations and other events and additional services, such as CCTV-based traffic monitoring and security. The two-day Cereals events are the leading trade fairs of their kind in the UK, showcasing innovation in arable farming, and attract thousands of exhibitors and attendees.



Challenge

The biggest challenge was the compressed time frame – only 10 days “starting from scratch” to get this network up and running. With the site being more than a kilometer long and having multiple “packet hungry” applications, such as CCTV, dedicated and publicly-available Wi-Fi and handheld and fixed ticket scanning equipment, needing to be connected, RedBox needed a reliable solution with multi-Gigabit capacity that could be deployed relatively quickly and easily.

Given all these applications (e.g., approximately 40 APs for Wi-Fi), the resulting backhaul traffic and RedBox’s experience with similar events, another main requirement would be interference mitigation. In essence, it was paramount to avoid the 5 GHz band as much as possible. For example, ad hoc services using that band during an event can result in network downtime, primarily in terms of the time needed to diagnose the fault and fixing it.

Solution

RedBox contacted Siklu’s UK office and learned about Siklu’s range of products and their features, including the new MultiHaul™ TG series, which is a Gigabit-speed, Terragraph-certified system.¹ After evaluating various options, the parties agreed that the MultiHaul TG series would best meet the requirements for onsite connectivity and Siklu EtherHaul™ point-to-point radios would meet the longer-range requirements to the edge of site and serve as high-speed long range links to bring the main internet connection to site, by connecting to a fiber PoP seven kilometers away.

In the end, RedBox installed three MultiHaul TG N366 nodes and 20 MultiHaul TG T265 terminal units to backhaul Wi-Fi traffic around the site to more than 100 hundred access points and other devices. As



part of the process, the technical team from Siklu UK worked closely with RedBox to explain the “ins and the outs” of the MultiHaul equipment, quickly diagnose configuration and link budget issues and answer related questions in order to maximize the MultiHaul capabilities for this project,

And with regards to the crowded 5 GHz band and the interference it causes, with Siklu MultiHaul TG this interference problem is not an issue, as the 60 GHz band has plenty of available bandwidth and virtually zero interference from competing radio or other electronic sources. In addition, N366 nodes feature a 360-degree field of view, which allows full coverage of a particular area and simple connection of additional terminal units, by virtue of Siklu’s smart beam-forming technology and auto-align antennas. Further, a typical TG system configuration offers up to 16 Gbps of bandwidth, which affords plenty of capacity as the number of users grows.

Therefore, the combination of the higher operating frequency and beam forming technology means RedBox can quote an SLA (“service level agreement”) that will give an event organizer the confidence to offer “fully guaranteed” Wi-Fi and other network services to their customers. In some cases, most of an event’s revenue will be generated via Internet connectivity -- and the ability to offer a high-level SLA becomes extremely important.

¹Terragraph is an initiative started by Facebook that uses 60 GHz unlicensed spectrum to provide wireless connections with “fiber-like” multi-Gigabit speeds to end users.



Results

RedBox completed installation of the network two days before the event began and tested various types of connections and performed other quality checks the next day. During the two days of the event, the network performed remarkably well – with almost immeasurable levels of interference and zero downtime. Event organizers commented to RedBox afterwards that they had no complaints from exhibitors about Wi-Fi service degradations or outages.

Going forward, RedBox believe that the MultiHaul TG equipment marries very well with their inventory of Wi-Fi access points, making it quicker and easier to manage network set ups and avoid interference in an ever-changing RF environment – even as more and more networks used the 60 GHz spectrum. Further, as compared to other 60 GHz gear with seemingly lower up front costs, RedBox feel MultiHaul TG will provide long-term ROI advantages as it will last longer, which eliminates the expense of replacing gear more frequently and retraining staff on how to use it.

“Siklu’s MultiHaul TG comes as advertised, basically works out of the box and the antenna technology is the best we’ve found,” said Morgan Denton...of RedBox. “In fact, I’d call Siklu’s beam forming feature a game changer for us as we now need not spend hundreds of pounds and spend a lot of time deploying powered special access platforms for installations. There are other 60 GHz systems available, but, in my experience, they do not compare to MultiHaul TG.”

As various industries recover from the impact of Covid-19 and large-scale events return, RedBox feel confident in the reliability of the services they provide and in the ability to offer high-level SLAs based on them – which will give them a key competitive advantage in the years ahead.

