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Case Study Wireless/Wi-Fi

Facing high poverty rates and limited opportunities, the residents of Lower Price Hill were at a competitive disadvantage when it came to access to technology that could improve their prospects for higher education or full-time employment.

A Community in Need

At the heart of the project -- and community -- is Oyler school. It's Powernet's partnership with them that drove the project to move forward. Oyler, Powernet and public officials met regularly to determine what the community needed and what Powernet could do to help.

Understanding the demographics and socio-economics of the community was a key component in establishing buy-in from area leaders, residents and businesses, and was a motivating factor for Powernet to get involved. At Oyler School specifically (where 650-700 students are enrolled at any one time), the numbers are reflective of the larger community, where the average income is just \$20,200:

- 98% of students are at or below poverty guidelines
- 35% of students live in extreme poverty
- 30% of students are homeless

A Community Partnership

In looking at these statistics, the value free Wi-Fi access could provide to the Lower Price Hill community seemed very apparent to all parties involved. It was a way to bridge a gap that simply doesn't exist in more well-to-do neighborhoods between residents and access to jobs, education and information.

Once buy-in was secured from officials, the next issue was resources. Which would come from Powernet and what

Powernet Builds Free-Access Public Wi-Fi Network for Local Community

Lower Price Hill

Location:
Cincinnati, Ohio

Population: ~950

Network Area:
75k-100k ft²



Challenge

- Deliver free Wi-Fi access to low-income community
- Attain support from key members of the community
- Build an indoor/outdoor public network capable of supporting a large number and variety of devices

Solution

- Secure permission from neighborhood residents and businesses for AP installation
- Install five Ruckus 7762-T APs at strategic positions in neighborhood
- Remote network management enabled through vSCG

Results

- Wi-Fi network covering 75k-100k ft²
- 100% network uptime
- Devices were never shorted their allotted rate limit
- Initial network supports 500+ users at once

would the community need to contribute? Powernet had the technology and hardware; the community simply needed to provide permission for installation of access points on public and private property, which was happily granted by local residents and business owners given the nature and spirit of the project.

Engineering the Future

In order to make the network truly accessible to the public, it needed to be available indoors and outdoors in restaurants and parks around the area. Powernet engineers determined that a total of five access points were needed. In order to accommodate a wide variety of devices and high-volume traffic, the team installed two Ruckus 7762-T APs initially, adding three additional 7762-Ts as the project progressed, steadily increasing the coverage area.

Powernet's Wi-Fi team manages the network through a hosted network controller (the Ruckus Virtual SmartCell Gateway, or vSCG). The vSCG allows engineers to access the network and APs from the office, and enables much more effective and efficient network monitoring -- if there is a crash, they'll be able to pinpoint when and why it happened.

On Track for Success

The network was officially launched in September of 2014 with a ribbon-cutting ceremony at Oyler School. The event coincided with a donation of 25 Giff1 Android tablets from Powernet to the Oyler Community Learning Center, which gives the students and residents of the area additional means to access the network.

Results of the initial install are promising: Every connected device is able to run its full rate limit and the network is experiencing 100% uptime. The next challenge will be improving speed and rate limit, which should come with the installation of a better point-to-point link in the area. If all goes to plan, the improved network will lead to increased usage and be better able to serve the community.

About Powernet

Powernet enables businesses to connect through innovative telecommunications solutions. With networking, voice, data, call center and carrier services, we have the technology and expertise to meet the needs of any size business.

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"This is really all about the future vision...The world has come to Oyler to see how to do something."



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