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Smart network for a smart city

The pleasant environment of the historic downtown district of Dublin, Ohio attracts many visitors, who compete for prime parking spaces in the city's public lot. A lack of visibility was causing congestion, which was impacting local business, so a proof of concept (POC) was launched for a smart parking application. It uses video to reveal the current parking situation and drivers can view this on their mobiles before they visit.

About the customer

Dublin is a city of more than 50,000 residents located northwest of Columbus, Ohio. It is consistently ranked one of the safest cities in the US and in 2015 it was named one of America's top 20 creative class cities. It is home to more than 20 corporate headquarters, an entrepreneurial center, 4,300+ businesses, and the urban, walkable Bridge Street District. It also hosts world-class events such as the Jack Nicklaus PGA Tour Memorial Tournament.

Industry: **Public sector**   Location: **USA**   People: **400**   Web: **dublinohiousa.gov**

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>
> Doug McCollough, CIO, City of Dublin, Ohio

Challenge

Lack of visibility was causing congested parking and impacting local businesses. The city needed a single network solution that would support a smart parking application and other multiple solutions.

Solution

- A new smart parking app uses video surveillance to track the current situation
- Results are delivered to community leaders, residents, and motorists
- The solution is enabled by a single LTE/5G network solution

Outcomes

- Parking utilization is maximized for the good of local businesses
- Access to a high-speed, wireless network will support many more smart applications with minimal expense
- An important step forward for Dublin's Most Connected Smart City ambitions

50k

residents could benefit from better parking

Need to cure serious parking headache

The solution is part of a wider Connected Dublin smart city initiative designed to deliver better services to local residents by leveraging smart mobility technology, IoT infrastructure, and high-speed fiber connectivity. It measures and analyzes parking patterns then makes the insights visible to community leaders and residents to help improve local business success while reducing carbon emissions. Data is collected on parking patterns, peak period traffic, and vehicle turnover rates, and is combined with foot traffic to help maximize utilization.

"We are interested in using reliable video-based analytics to accomplish various smart city functions such as smart parking," says City of Dublin CIO, Doug McCollough. "Video is more flexible than other data collection devices and the same sensors can be used to monitor multiple scenarios. As this capability matures, we want to use it for far more mission-critical opportunities. Parking is only the beginning."

Reliable network is a crucial component

The parking application required the installation of cameras, data analytics algorithms, and a local high-speed wireless broadband network with 5G technology so the City of Dublin needed specialist help in the development and design.

Working out of its HQ in Richardson, Texas, a team from Fujitsu Network Communications (FNC) provided that help by designing and building a private network and the parking application that gives people phone access. Fujitsu servers were used but as project manager, FNC engaged third parties to provide other elements such as virtualization software, video analytics, cameras, CPE, and 5G core components.

"The smart parking application provides valuable real-time insights to support local businesses, bolster economic development, and reduce drive times," says McCollough. "By collaborating with partners to leverage advanced technology through the Connected Dublin initiative, we are exploring new ways to better serve our most important partners — the citizens of Dublin, Ohio."

Firm foundation for many new initiatives

The pilot application has provided city staff and local businesses with valuable insights into traffic and parking patterns, revealing trends that can help the city administration make informed, data-driven decisions to improve operations.

One unexpected benefit of the system was to see how local people were complying with the 'stay at home' order during the COVID-19 pandemic. Other scenarios in which it could be used are crime prevention, crowd control for large events, road safety, social unrest, and property damage.

FNC operates and maintains the Network Operations Center (NOC) and monitors the system which relieves the city of this complex task. It is working with the city to convert the POC into production and now with access to a high-speed, wireless network, many more smart applications can be enabled with minimal expense.

These include the ability to store camera feeds and conduct video analytics to support public safety and help combat local crime. Another application will be for a fixed wireless broadband service which the city will make available to local businesses at a reduced cost. Wi-Fi services are planned, and it is hoped to connect the 5G network to Dublin's 100GB fiber which is used to attract large businesses to the area.

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