



US IGNITE AND JUNIPER HELP CITIES SPARK ECONOMIC GROWTH AND BUILD STRONG COMMUNITIES

Summary

Company:
US Ignite

Industry:
Nonprofit

Business Challenges:
Create strategic opportunities for businesses and residents with advanced networking technologies and services

Technology Solution:

- QFX5100 line of Ethernet Switches

Business Results:

- Empowered regions to realize economic growth and commercial opportunities through high-speed connectivity
- Helped small Oregon city attract millions of dollars in venture capital and reduce vacancy rate to 7 percent
- Attracted high-tech research and jobs to a Midwestern university with community-improved network infrastructure
- Enabled medical researchers in Utah to conduct deep brain stimulation tests over telehealth network
- Allowed Louisiana city to respond to residents' emergency needs and share critical information in times of crisis, including the coronavirus pandemic

The U.S. is stacked with digital hubs where innovative technologies and network services flow fast and furious. In these vibrant areas, everyone in the community—business owners, government agencies, students, and families—has dependable access to plentiful Internet. Beyond these busy hubs, however, often in rural, less populated regions, the nation has broadband deserts where only the very few and extremely affluent enjoy high-speed networking services.

US Ignite works directly with those underserved communities to accelerate economic growth and unlock the area's potential by making it possible to connect everyone to the vast richness of high-speed broadband infrastructure.

"We're about accelerating the smart city movement throughout the world," says Scott Turnbull, director of technology at US Ignite. "We work with partners and regional leaders to identify applications and services that are available through an advanced network that will be the most valuable for developing strategies for economic growth and community opportunities."

Smart Cities Create Engines for Innovation

Launched in 2012 with the support of the White House Office of Science and Technology Policy and the National Science Foundation, US Ignite helps communities develop technology hubs, digital town squares, and application testbeds that will impact education, workforce development, health, transportation, and public safety.

US Ignite has teamed up with Juniper Networks on dozens of smart city projects. "Partnerships with industry leaders like Juniper are pivotal to getting communities to where they can begin investing in themselves and building momentum to reach continuous, long-term success," Turnbull says.

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Within the Digital Town Square program, US Ignite and Juniper are strengthening broadband performance at the local and regional levels by linking local network infrastructure and the midhaul and backbone networks that connect those communities to the Internet. Once linked, communities can access content, applications, computing power, and many more valuable resources. This strategy reduces the impact on the national network, and it provides shorter and more consistent response times at the local level.

“We are helping regions become adaptive to the needs of their people through the deployment of technology,” Turnbull says. “In some areas, we are adding intelligent network management so they can better support emergencies or improve public safety. Other areas are improving their decision-making with adaptive street lighting or traffic patterns.”

US Ignite came into Eugene, OR, a city 100 miles from Portland, and created a collection of fiber buildouts that connected local network infrastructure to Internet transport routes traveling across Oregon and California. With so much bandwidth capacity available, Eugene began attracting dozens of companies and a steady stream of tech talent. The area has seen millions of dollars in venture capital move into the region and reduced vacancy rates to 7 percent.

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- Scott Turnbull, director of technology, US Ignite

In the Urbana-Champaign area in Illinois, two Digital Town Square projects increased broadband capacity, updated connection pathways, and improved network resiliency and broadband availability. Local network operators were able to offer 10 Gbps broadband with improved network connectivity, and load distribution is much more balanced now during high traffic periods. The network upgrade has also added research and tech jobs at the National Center for Supercomputing Applications at the University of Illinois, Urbana-Champaign campus.

Another broadband success story took place in Utah, which is largely rural and sparsely populated. A Digital Square project created a statewide, distributed, and resilient data exchange that is making significant contributions to the local economy. The gaming industry in Salt Lake City is enjoying low latency and lightning-fast response times, while patients are enjoying the convenience of telehealth. Medical professionals in Moab, UT,

have tested deep brain stimulations to address health conditions such as Parkinson’s disease over gigabit connectivity to the Utah Education and Telehealth Network.

Turnbull sees these city successes as examples of the advantages of having advanced network services. “Our ability to participate in society is directly tagged to our ability to access an advanced network and get good performance across it,” he says. “Having local network architectures that are supported by robust fiber infrastructure and switch architectures is a great way for communities to make sure that everybody is included equally in the ability to communicate, to recover from disaster, educate themselves, or run a successful business.”

Juniper Is a Familiar Solution that Fits the Footprint

An advanced high-powered network is central to US Ignite’s smart city game plan, and Juniper is its best performer. The Juniper Networks® QFX5100 line of Ethernet Switches is integral to many US Ignite projects, including Digital Town Squares.

QFX5100 switches dramatically increase capacity between mid-mile and backhaul networks and last-mile broadband infrastructure deployed by ISPs so that broadband can conveniently reach community businesses, governments, and residents. The high-performance, agile, and scalable QFX5100 switches deliver 10/40GbE capacity to broadband-lacking communities. QFX5100 switches also have flexible deployment options and rich automation features.

“We’re not giving our communities a free, nameless puppy,” Turnbull says. “QFX Series switches are a proven solution that fits into their operational footprint.”

Another advantage is that the capabilities of Juniper networking encourage communities to be more creative and innovative. “Communities start thinking ‘Wow, what can I do now that I couldn’t do before?’ Juniper’s robust feature set gives them so many possibilities,” Turnbull says.

Emergency Response Centers Help Residents Navigate Unstable Times

As regions recover from the COVID-19 pandemic, Turnbull sees advanced network services as an important differentiator for returning to economic health. “Network services are a fundamental technology for a world that may need to cycle through periods of isolation or quarantining as we work to find a vaccine and potentially face another future virus outbreak,” he says.

Lafayette, LA, one of US Ignite's smart cities, proved just how responsive a city can be when it has an advanced high-speed network. City leaders in the mostly agricultural southern Louisiana region designed a business emergency operations center to share information, communications, and decision-making across multiple private-sector entities, nonprofit groups, and citizen groups.

"They take emergency operations as it relates to businesses to get them up and running and make them more resilient," Turnbull says. "Soon after the virus-related shutdown, the city began using the network to communicate new business hours, rules around interfacing with the public, and parking for curbside pick-up. The plan is that they will share information to help businesses come back up quickly as restrictions ease."

In technology-rich regions, networks are supporting helpful data visualization programs that alert residents in communities about food banks, open stores, available supplies, and public bathrooms. City governments have also sent emergency notifications over networks on automated 311 services. And cities are looking to networks to help with contact tracing to track people who have been in contact with someone infected with COVID-19.

For cities without advanced networks and high-speed broadband, Turnbull says, "Capacity is a barrier and not having enough is a problem. We will always have hurricanes, earthquakes, and other natural disasters impacting our society. Having a scalable network that connects people to the services they need most is absolutely critical for us to respond in the next few years to Covid-related challenges and other future disasters that will definitely come our way."

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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