

Springfield, Missouri, and CenturyLink Expand Fiber Network

In CenturyLink's first major venture outside its traditional service area, it is leasing fiber from Springfield City Utilities to make Springfield a gigabit city.

By Masha Zager / *Broadband Communities*

Springfield, Missouri, one of the first U.S. cities to offer broadband services to businesses, is now taking the next step forward and building a citywide broadband network. The network's anchor tenant, CenturyLink, will build and own the final drops to connect homes and businesses throughout the city and provide services. In addition, Springfield will pursue other, more limited, partnerships with additional service providers.

Springfield City Utilities, which provides electricity, water and gas in Springfield and surrounding areas, first built out fiber in the 1980s for its internal use and to serve municipal facilities. In 1997, its network, SpringNet, began providing fiber connections to enterprises. Today, SpringNet has 700 route miles of fiber deployed throughout the community and provides an Ethernet interface of up to 40 Gbps to more than 600 customers, including businesses, multifamily properties, schools and hospitals. Several carriers provide internet connectivity to the network. SpringNet also offers business LAN services and small-cell antenna attachments.

RESPONDING TO DEMAND FOR EXPANSION

SpringNet's success created demand from other potential customers. The network responded by launching several popular 1 Gbps plans for small businesses, but homeowners also clamored

for services. To serve homeowners, as well as small businesses in the parts of the city the fiber network did not yet reach, the network would have to expand on a scale greater than any it had contemplated before.

The city wanted to expand the network and respond to citizens' demands. From a practical point of view, it already owned poles, rights-of-way and other assets, and it had experience building and operating a fiber network. In addition, city leaders anticipated a boost to economic vitality and "quality of place," according to Dean Thompson, associate general manager of City Utilities. The city hoped to bridge the digital divide and encourage home-based businesses. During visits to peer cities, such as Chattanooga, city leaders saw the benefits of citywide gigabit networks. Thompson says, "With every single sector, there was a bump of some sort – whether it was housing prices, whether it was education, whether it was some form of economic development. The medical industry told us, 'If we can avoid transporting patients because they have better access, we could save a lot of money.'"

First, however, SpringNet had to find the right business model. Having leased dark fiber for more than 20 years, it had no expertise in service provision. In addition, Missouri law bars municipalities from offering telecommunications services (although "internet-type services" are exempted), and the state's political climate is



A CenturyLink technician installs fiber in an MDU.

generally unfavorable to municipal providers. Therefore, for both business and political reasons, continuing to lease dark fiber seemed the best approach. But finding a private provider that could serve a city of 160,000 people – not just individual enterprise customers – would be a challenge.

FINDING A PROVIDER

In February 2016, Huntsville Utilities, the municipal utility in Huntsville, Alabama, announced that it had leased dark fiber to Google Fiber, which was preparing to provide internet services throughout the city. Municipal leaders across the United States, including those in Springfield, took notice. If Google Fiber was willing to serve as the anchor tenant in Huntsville – a city slightly larger than Springfield – then perhaps Springfield could also find a qualified service provider.

Springfield contacted The Broadband Group (TBG), the consulting firm that had helped Huntsville develop its model and secure the Google Fiber partnership, and whose subsidiary, TBG Network Services, provided construction management for the Huntsville project. With TBG's help, Springfield began to conduct market research, analysis and preliminary infrastructure design.

The market research confirmed city leaders' impression that citizens were not satisfied with their current providers. Some couldn't get broadband service at all. Others couldn't get the speeds they needed, and most felt prices were too high. Fewer than 7 percent of residents could access 1 Gbps symmetrical speeds. Clearly, Springfield represented a good opportunity for a new provider that could offer affordable high-speed internet.

TBG thought that CenturyLink – a Tier-1 network operator that served some Springfield businesses but not its residential market – might be the right provider for the city and reached out to the company to see whether it would be interested. It was.

Chris Denzin, CenturyLink's vice president for consumer sales, notes that CenturyLink was open to business structures of various kinds and already had data transport running through Springfield, so the idea made sense: "Our goal is to expand our fiber footprint, and there are lot of ways to do that. We can build our own fiber, or we can partner, but ultimately the goal is the same: We want to be the nation's best fiber provider." Denzin adds, "This gave us a chance to provide fiber-based services without the cost of building fiber. Ultimately, we're looking at it as an opportunity to expand and grow revenue in an area we already serve."

Even though SpringNet had other dark fiber leases and CenturyLink had partnerships of other kinds, Springfield is still CenturyLink's first residential market outside its ILEC territory, and CenturyLink is the anchor tenant that allowed SpringNet to build out citywide. As Tom Reiman, president of TBG, puts it, "This fundamentally changes how any internet service provider thinks about growth into new markets."

NEGOTIATING A CONTRACT

Given the scale of the project, negotiating the contract was a complex and lengthy undertaking. But Denzin emphasizes that both sides aimed for a "true partnership," and that the city's goal of providing services that would allow it to compete locally and globally was aligned with CenturyLink's goal of being the nation's best fiber provider. This alignment, and the relationship of trust it created, allowed the parties to overcome disagreements about details and reach a contract that furthered both organizations' goals.

Under the plan, City Utilities will spend about \$120 million over four years to build out about 1,000 route miles of fiber, passing more than 105,000 households and businesses. As in Huntsville, the city will build fiber to the curb; CenturyLink will lease this fiber and then build drops to all premises that request service.

CenturyLink's 15-year lease on city fiber, with an option to renew for another 15 years, will cover the debt that City Utilities incurs to build the network, so no customer rate increases will be needed to pay for the network expansion. CenturyLink fiber internet service is expected to be available to residents and businesses in the first build area during spring 2020, and CenturyLink has committed to pricing the service competitively. Residential and small-business customers will be able to access near-gigabit services.

Reiman emphasizes that CenturyLink would not have participated in an open-access network, a model it considered risky. In a true

open-access network, the cost of entry for a competitor is very low. However, on SpringNet, any potential competitor's costs of entry will be high and the rewards uncertain, assuring CenturyLink of de facto (though not contractual) exclusivity for the bulk of SpringNet residential customers.

CenturyLink will still face competition on SpringNet. Existing SpringNet business customers can keep their current fiber connections and the carriers they use, and Thompson expects to lease additional fiber to new customers, including wireless providers, enterprises and wireline providers. Thompson notes that, from a long-term financial point of view, "it limits some of our risks when we're diversified like that."

But competition for business customers doesn't faze CenturyLink. Denzin comments, "We sell and buy services from SpringNet now – and that's not going to change. We can compete."

MOVING FORWARD

SpringNet has started moving forward with the network expansion. On its website, CenturyLink already solicits expressions of interest from residents and small businesses. TBG Network Services, which is managing the project, has brought in contractors, including Biarri Networks, which performs automated design; Render Networks, which provides a digital platform for construction management, and BHC Rhodes, an engineering firm. The design is already in progress, as is the selection of a construction contractor.

Render Networks, an Australian company that entered the U.S. market only recently but has already participated in connectivity upgrades to more than 200,000 U.S. homes, says the construction companies bidding on the contract were told they will need to use Render's digital platform to manage the construction process and have responded positively.

Reiman says, "We anticipate Render's participation in the City Utilities fiber network expansion

will introduce valuable operational efficiencies that will complement our overall technology strategy. While respecting the metrics inherent in any fiber network build, the Render platform introduces an innovative approach that addresses logistical complexities typically associated with projects of this scale."

Giving an example of addressing logistical complexities, Sam Pratt, CEO of Render Networks, explains that supervising a large construction crew that includes both contractors and subcontractors requires engineers to perform quality assurance and ensure that all work has been done to standard. The Render platform allows the QA team to review photos and other documentation from the office location, significantly reducing the number of field inspection trips they make – a far more efficient use of expensive resources.

Pratt also notes that a digital network construction platform prevents construction contractors from performing work out of sequence – for example, installing a field cabinet before the associated fiber is ready to be installed in it. Such errors, he says, are common, though not often discussed, and construction contractors usually have to bear their cost. Mitigating construction contractors' risk will be another benefit of a digital network construction platform that should reduce the overall cost of the SpringNet project.

The public, too, is on board with the project. Thompson says the response to the SpringNet expansion has been "amazing. There's been overwhelming, overwhelming support. ... There's definitely a buzz in the air, and I've heard terms such as 'game changer' and 'transformational.'"

He adds, "I think this is going to be a next step to take us to another level." ❖

Masha Zager is the editor of BROADBAND COMMUNITIES. You can reach her at masha@bbcmag.com.