

City of Pella Solves IPv4 Challenges with Network Address Translation

The City of Pella's community broadband network needed more IPv4 addresses for their expanding subscriber base. Instead of purchasing expensive IPv4 addresses, they chose netElastic CGNAT for its performance, cost-effectiveness, and ease of use.

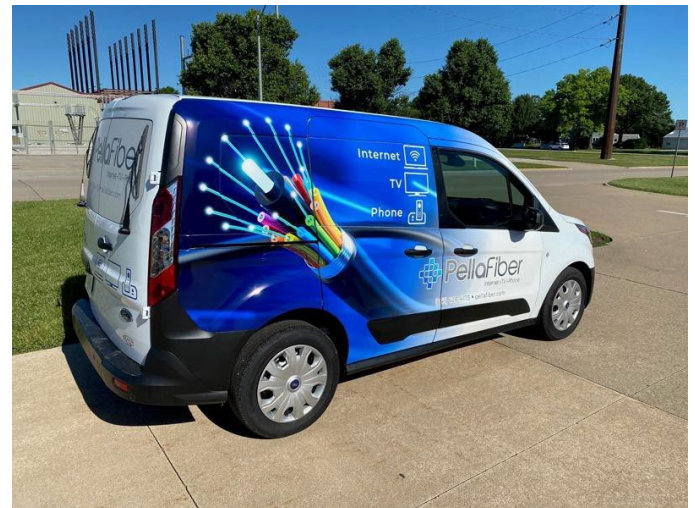
When people hear the word "Pella" many think of the Pella Corporation, which is located in Pella, Iowa, and is one of the largest window manufacturers in the United States. However, the city of Pella is now opening a window to what's possible with municipal broadband.

Frustrated with the slow DSL service Windstream was providing, 92 percent of Pella voters approved the creation of a new community broadband network to bring affordable, high-speed broadband to their city. [Pella Fiber](#) was then formed as a subsidiary of the city's municipal electric cooperative.

According to Pella Mayor Don DeWaard, "When Pella Fiber was formed, the City Council felt it was extremely important to provide reliable internet services and excellent customer service within our community."

Building a Community Broadband Network while Managing Investment Costs

Fiber rollouts require high initial investments to build the required infrastructure to physically connect customers. In addition, signing up new broadband subscribers also comes with another cost...the price of purchasing IPv4 addresses. And



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*— Erik Foreman, Network Engineer,
City of Pella*

this cost isn't cheap, with IPv4 addresses recently selling for \$50 per address.

Pella Fiber realized they needed more IPv4 addresses for their expanding subscriber base. "To provide internet service to all Pella residents, we would have to purchase thousands of IPv4 addresses," said Erik Forman, Network Engineer at City of Pella. "But the cost of purchasing large numbers of IPv4 addresses wasn't economically feasible. We decided a CGNAT solution, which makes more efficient use of existing IPv4 addresses, would be a cost-effective alternative to buying IPv4 addresses."

Pella Fiber then hired consultant Ben Stineman to help them evaluate CGNAT solutions. As a municipal electric cooperative, the City of Pella had no prior experience in telecommunications or broadband. So a CGNAT solution that was simple, cost-effective, and easy to deploy were important requirements for Pella.

An Easy and Affordable CGNAT for Electric Co-ops

After looking at multiple CGNAT vendors, it was determined that netElastic could provide the city of Pella with CGNAT functionality for pennies per subscriber. The next step was to thoroughly test the performance of [netElastic CGNAT](#). After the testing was successfully completed, netElastic was chosen.

"The netElastic CGNAT solution has all the right features, reliability, and cost characteristics that make it a perfect fit for rural ISPs like the City of Pella," said consultant Ben Stineman. And since netElastic NAT software runs on standard x86 servers, worries about availability, spares, and obsolescence were eliminated.

netElastic's high-performance virtual router technology is at the heart of CGNAT, including a scalable software



Construction crew laying fiber in the City of Pella

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architecture that delivers a high-level of translation performance while supporting a broad range of additional routing capabilities. And netElastic CGNAT supports up to 60,000 subscribers.

Implementation was also easy, since netElastic CGNAT is available as a ready to deploy appliance or as a software package to deploy on your dedicated hardware or VM. In addition, operations are simple and OpEx minimized with netElastic's software-based solution.

A Municipal Broadband Success Story

Pella Fiber completed their fiber deployment only a few months ago, but they've already reached a take-rate of almost 50%. Today, Pella Fiber's community broadband network covers the entire city limits and offers the fastest internet service in town. With Pella, every home gets a gigabit of speed and they recently deployed their first 10 gig residential subscriber. And what's been the role of netElastic?

According to the City of Pella's Erik Foreman, "netElastic CGNAT has enabled us to grow our subscriber base without having to continually buy expensive IPv4 addresses. Pella Fiber is totally focused on our customers and netElastic CGNAT has brought real value to the residents of Pella by assuring they have high-speed, affordable internet access."

Erik also called netElastic CGNAT "the easiest part of our network to install, configure, and operate."

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