

ElbertonNET needed to break the cycle of constantly buying IPv4 addresses.

Our CGNAT provided addresses for years to come

ElbertonNet wanted to break out of the cycle of running low on IP Addresses and having to get more. They needed a system that would support their subscribers' growth for years to come.

INTRODUCTION

With its historic roots and beautiful lake surroundings, the City of Elberton sits just 110 miles east of the sprawling metropolis of Atlanta. As the "Granite Capital of the World" Elberton has largely revolved around granite production. As the industry grew in the early 1900s, so did Elberton's importance, bringing many travelers and businessmen to settle in the city and leading to its ultimate growth.

Today the City of Elberton operates an advanced fiber-optic broadband telecommunications system under the name ElbertonNET. It enables the City to offer video, data and phone service to its residents and businesses. With over 30 miles of fiber and an HFC cable plant ElbertonNET provides High Speed Internet, Phone Service and Cable TV available throughout the entire City limits and beyond.

"We have more than enough IP addresses now, and could give every individual in this city and county an IP Address and still have addresses left over."

*David Dotson
Broadband Operations Manager*

THE RESULTS

From Dotson's point of view, the greatest advantage of the new system is that they now support a ratio of sixty-four devices or subscribers with one IP address. So instead of using up sixty-four IPv4 addresses, the CGNAT system preserves the addresses they have by using only one IPv4 address for every sixty-four needed. For subscribers with voice devices they are able to use a NAT ratio of one hundred and twenty-eight private addresses for each public address.

"We have more than enough IP addresses now, and could give every individual in this city and county an IP address and still have IPs left over," says Dotson. "This has given us a lot of breathing room and eliminated the stress of always worrying about running out of IPv4 addresses. And it's working great," claims Dotson.

THE CHALLENGE

As the area grew so did ElbertonNET. In addition to an increasing number of subscribers, advances in technology meant more and more devices per subscriber, whether cell phones for their kids or cameras for their front doors. With this growth, ElbertonNET was continually in need of additional IPv4 addresses. As there were no more IPv4 addresses available from ARIN, the Regional Internet Registry for North America, Elberton's only solution was to acquire addresses in the aftermarket, and as demand for IPv4 increased, so did the price for IPv4 blocks.

Elberton realized that purchasing large groups of addresses was prohibitively expensive, so they leased smaller blocks of addresses from ZCorum to replenish their supply. Soon even those IP addresses were tapped out and they were back requesting more, sometimes two or three times a year.

“It’s kind of like video back in the day when homes had one TV. Then it was two. Soon it was one in every room and even outdoors,” recalls David Dotson, Elberton’s Broadband Operations Manager. “It’s the same today with data. One day I looked at all the devices I have; two cell phones, a laptop, a printer, a tablet and a gaming console. That’s a lot. And that’s just me,” Dotson continues. “In just a few short years, just with what people are holding in their hands, the need for more IP addresses has become a necessity and there’s no end in sight. New technology and devices are being introduced to the world almost every day. When it comes to the need for IP addresses, we’re just scratching the surface.”

With seemingly endless growth on the horizon, Elberton knew they had reached the point where buying blocks of addresses year after year didn’t make sense. They also ruled out switching to an all IPv6 network as a viable option right now. Updating all servers, routers and switches that all this time had depended only on IPv4 requires a lot of money and time. It also would not resolve the issue of IPv4 depletion, since their subscribers would still need an IPv4 address to reach IPv4 content on the Internet.

THE SOLUTION

After reviewing options and solutions with ZCorum, the Elberton team selected a low cost but powerful Carrier Grade NAT (CGNAT) appliance that would conserve their current IPv4 addresses, and give them plenty of time to plan a future migration to IPv6. CGNAT solves the problem of a shortage of IPv4 addresses by allowing many customers to share a single public IPv4 address. This allows Elberton to extend the life of their existing IPv4 address space.

The ZCorum CGNAT appliance is based on software deployed on standard X86 hardware, which is less expensive than other solutions that use a proprietary hardware platform. ZCorum sized the hardware based on Elberton’s current and anticipated growth, and then configured and installed the equipment in Elberton’s network. The installation of the equipment was well-coordinated and easy, and the state-of-the-art technology also includes full logging capability for LEA requirements.

The CGNAT system will also be largely future proof. In its current configuration the network is expected to meet Elberton’s needs for several years until they are ready for a full conversion to an IPv6 network. And since IPv4 sites on the internet will be around a long time, Elberton’s subscribers will be able to reach IPv4 sites as well as IPv6 sites even after ElbertonNET has transitioned to an all IPv6 network. Having several different options to adjust for the future conversion to IPv6 makes the system extremely flexible and will serve the ElbertonNET subscribers very well for a long time.



THE BOTTOM LINE

Elberton engaged ZCorum to help them address the depletion of IPv4 addresses and the ongoing cost and effort of buying more. They wanted a system that would support their subscribers for years to come – and they wanted it to be affordable. They deployed ZCorum’s CGNAT appliance to conserve their current supply of addresses. Elberton now has enough IPv4 addresses to serve their subscribers for a very long time and the ability to access all sites on the internet now and in the future.

About ZCorum

ZCorum is the leading provider of innovative diagnostics and managed broadband solutions to telecommunications companies, helping them reduce costs, increase operational efficiency and improve the subscriber experience. For more information, visit ZCorum.com.