Virtual CGNAT Helps Large Fiber Operator Manage IPv4 Addresses for Fast Subscriber Growth

CaseStudy

AT A GLANCE

vCGNAT is a fully virtual solution that addresses the problem of IPv4 address exhaustion. It allows service providers to extend their IPv4 network quickly, and enables a smooth transition to IPv6.

This solution has been deployed for numerous communication service providers worldwide and it works entirely in a virtual environment on standard Intel architecture servers and industry standard virtual machines without the need for specialized, dedicated hardware.

INTRODUCTION

A new fiber operator had doubled its subscriber base at a very fast pace. Their challenge was how to deploy a large quantity of IPv4 addresses to support the growth.

After launching their fiber network, the new operator faced an immediate need to provide IP access to thousands of new subscribers. The operator utilized a Virtual CGNAT (vCGNAT) solution to better provide for its customers at scale.

Prior to launching its network, the operator considered acquiring a Carrier Grade NAT (CGNAT) solution but were concerned with IPv4's high prices. After testing a "pay as you grow," licensing model which allows for gradually updated license tiers, they were satisfied with the coverage and decided to deploy the service.

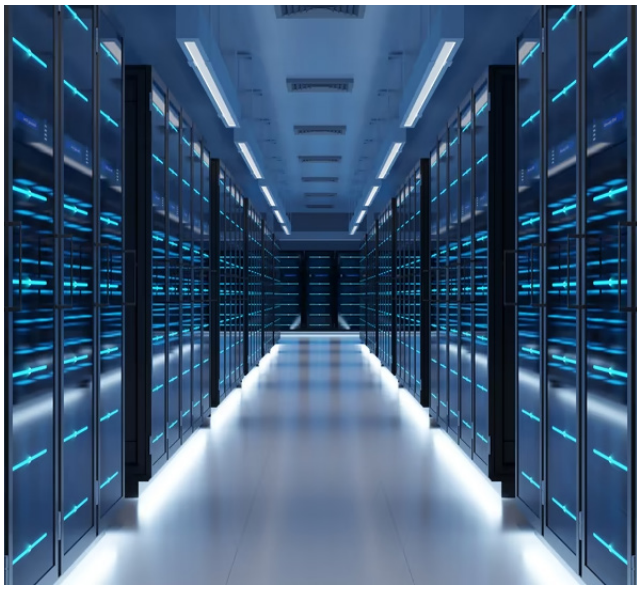
Facing the challenge of securing a steady supply of IPv4 addresses, the operator decided to adopt vCGNAT hardware because it met the following needs:

- **Scalability** – providing IP addresses for new subscribers during the rapid growth of their customer base
- **High Availability** – providing redundancy of network functions
- **Ease of Deployment and Management** – requiring minimal technical support
- **High Performance** – consistently delivering high throughput handled with fewer servers
- **Increased Business Agility** – decreasing the CAPEX and improving the flexibility of the network with the solution's "pay as you grow" licensing model

THE CHALLENGE

The operator saw exceptional growth in customers, having announced its 10,000 customer in June 2022 – only four short months after celebrating its 5,000 customer. Providing IPv4 addressses at this fast pace posed a challenge for the new operator.

THE SOLUTION



The vCGNAT solution launched at a base minimal subscriber tier, with one site and two servers. The service was updated several times, and currently accommodates 5 CGNAT instances with the capacity to support a growing subscriber base of dozens of thousands. The operator is constantly developing new sites and launching new services, and are predicting a six-figure subscriber base by the end of 2023.

vCGNAT's flexibility and scalability allows the operator to forget about the cost of IPv4 addresses when they add a new subscriber. The solution matches the performance of proprietary hardware-based alternatives with high reliability and performance of up to 240 gigabits per second. With vCGNAT, the operator can grow in line with its needs and scale the bandwidth of its network as needed within just a few hours.

CONCLUSION

With IPv4 addresses nearly exhausted and prices increasing, growing ISPs need an alternative that is fast and cost effective. The operator's fast growth – from 5,000 customers to 10,000 customers in just four months – would have meant very high bills for IPv4 addresses – if they could even find them.

CGNAT offers a good technical solution for this challenge, but the tiers of licensed subscribers are set too high for fast-moving entrepreneurial operators. This results in ISPs paying for capacity that they don't yet need. vCGNAT's pay as you grow licensing brings that more in line with the needs of these carriers by providing tiers supporting a lower number of subscribers with a more moderate growth path as well.

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 on ZCorum DDoS solutions, visit ZCorum.com/solutions/ddos/.

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