

SS Servicios Maximizes IPv4 Investment with Thunder CGN to Expand Internet in Patagonia

Patagonia is the southernmost area a person can walk on the planet outside of Antarctica, spanning from snow-capped mountains and old-growth forests to the sea. SS Servicios, based in Santa Cruz, Argentina, specializes in bringing internet services to this remote region, serving homes and businesses as well as sheep farmers, mine operators, and manufacturers. SS Servicios adopted A10 Thunder® CGN, a high-performance CGNAT product, to extend its IPv4 investment while scaling to meet customer demand for fast, reliable internet services.

We have achieved amazing customer satisfaction and lowered our support costs with A10 Networks Thunder CGN for high-performance CGNAT.

– Diego Mayán
CTO, SS Servicios



Industry | Service Providers



Network Solution
A10 Thunder® CGN



Critical Issues

- Maximize investment in IPv4 public addresses as the company expanded
- Meet government and company reporting requirements
- Increase customer satisfaction with a carrier-grade NAT solution
- Allow migration to IPv6



Results

- Extended IPv4 connectivity at scale to serve more customers without additional investments
- Improved the customer experience and reduced complaints by 90 percent
- Achieved a one-year return on investment – 5X faster than anticipated
- Met government and corporate reporting requirements

Challenges: Bold Plans for Growth

“Our motto is ‘toda conexión es posible’—all connections are possible,” says Diego Mayán, CTO at SS Servicios. And the company growth has mirrored that slogan.

SS Servicios has grown by triple-digits over the last several years, from 3,000 customers in 2017 to over 50,000 in 2023. The privately held company serves customers in eight regions in one of the largest and least densely populated states in Argentina, bringing the digital world to some of the highest urban areas in the world, and to the port cities at the end of the continent. Its fiber network delivers 500Mbps internet in urban cities and it uses wireless access to deliver 100Mbps internet services in rural areas—all with white-glove customer service.

SS Servicios is preparing to accelerate growth as it brings the internet to more of southern Argentina. With a focus on profitable growth, the company needed to maximize its investment in public IPv4 addresses.

“Buying a single public IP address in Argentina can cost as much as \$70,” says Mayán. “Having a long life for our IPv4 addresses means we better invest in our network infrastructure.”

SS Servicios also serves agriculture and heavy industry customers, who are early adopters of Internet-of-Things (IoT) solutions. For their needs, SS Servicios supports IPv6 addressing. It wanted to use some IPv6 features now while managing the migration as customer demand warranted.

Selection Criteria

As the network architect, Mayán led the initiative to seek a new carrier-grade NAT (CGNAT) solution that would allow SS Servicios to provide critical applications and service availability while simultaneously preserving its IPv4 investment. Beyond the core CGNAT functionality, the company needed the solution to support compliance requirements and authorized law enforcement requests as well.

SS Servicios considered CGNAT products from four vendors, including A10 Networks. The company ultimately conducted a thorough six-month proof-of-concept (PoC) test of A10 Thunder CGN. Extensive testing validated that Thunder CGN delivered the highest performance, supported advanced logging functionality to meet its compliance requirements, and was operationally simple to deploy and use.

The A10 Solution

SS Servicios deployed two Thunder CGN appliances into its network that allow the company to extend its IPv4 connectivity and seamlessly transition to IPv6. Built-in DDoS attack protection safeguards NAT IP pools and enhances infrastructure security and availability. It also helps to safeguard that applications and services remain addressable and available during an attack.

Thunder CGN is built on A10’s market-proven Advanced Core Operating System (ACOS®) and delivers CGNAT functionality across multiple form factors, including container, virtual, bare metal and physical. The Thunder CGN appliance delivers high performance in a compact form factor, resulting in lower OPEX and CAPEX through efficient rack space usage, lower power consumption, and reduced cooling requirements. This supports SS Servicios’ sustainability and operational efficiency goals.

Deploying Thunder CGN during the height of the pandemic prevented Mayán and his team from doing in-person training with A10, but ultimately, they only needed the Thunder CGN configuration guide to deploy the solution.

Ongoing operations have been smooth as well. “In two years of using Thunder CGN, we have only had to open two tickets, and both were resolved quickly,” says Mayán.

Mayán appreciates having both a web interface and CLI. “The web interface makes it easy to manage, but if I need to make a configuration change, I have the power of the command line at my fingertips,” he says.

Results: Maximized Investment, Scale and Growth

With Thunder CGN, SS Servicios can extend its IPv4 connectivity at scale to serve more residential, corporate, and agricultural customers in Patagonia Argentina. SS Servicios can maximize its investment in IPv4 addresses and avoid purchases of new address blocks as the business grows.

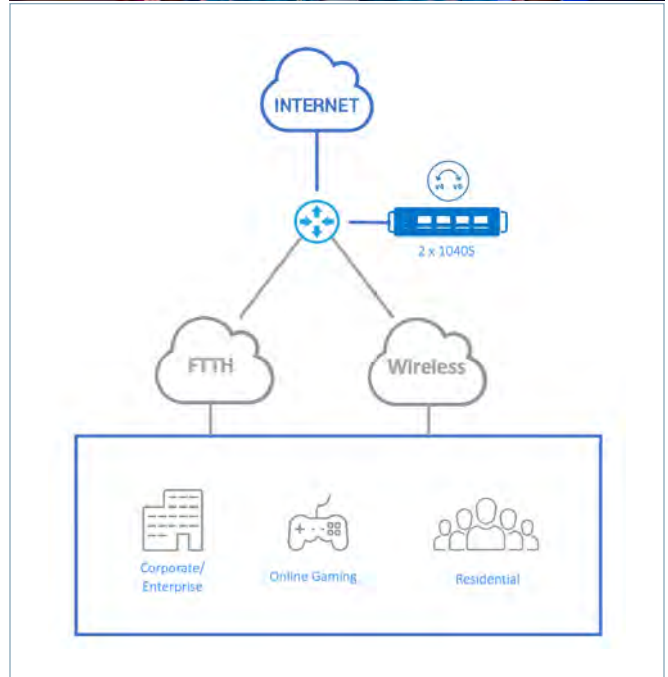
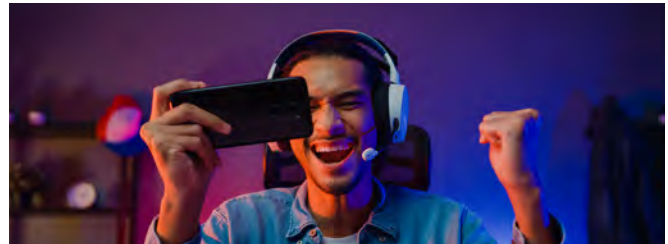
Deploying Thunder CGN has had an immediate positive impact on the subscriber experience. SS Servicios' ongoing goal is to effectively facilitate that subscribers' applications and services are available and reliable. Customer complaints have also been reduced by 90 percent. The user experience improvement was particularly noticeable to gamers, since its previous highly restrictive NAT made it difficult to connect to online games and chat with other players.

"The day after we put Thunder CGN into production, our customer support manager called to ask what we had done because customer complaints were significantly reduced," says Mayán.

The company also reaped significant financial benefits as well. SS Servicios anticipated a five-year return on investment (ROI) for Thunder CGN. But when it factored in the customer support savings, it saw a one-year payback.

"Customer support was a hidden cost," says Mayán. "We have been able to achieve amazing customer satisfaction and lower our support costs with Thunder CGN."

Thunder CGN supports advanced logging capabilities, which facilitates SS Servicios' ability to comply with law enforcement investigations and judicial orders as well as support its own corporate reporting needs. The company leverages Thunder CGN's subscriber login enrichment capability to supplement its own subscriber data with third-party information, such as subscribers'



Network Configuration Diagram

passport numbers or physical addresses. Pool batching, another useful Thunder CGN feature, reduces the amount of storage associated with the enriched logs. This helps the company to comply with government requests quickly and efficiently.

Migrating to Thunder CGN has enabled SS Servicios to strengthen infrastructure security. Thunder CGN has built-in DDoS attack protections so SS Servicios can defend its NAT IP pools and maintain service availability. Thunder CGN can identify the IP address under attack and selectively remove it from the pool without impacting the experience of other subscribers.

With Thunder CGN, SS Servicios can manage the IPv6 migration on its own terms as it supports smart agriculture, mining, and manufacturing customers with large fleets of IoT sensors and devices.

Success and Next Steps

SS Servicios is ready for growth as it continues to bring internet services from the peaks to the ports of Patagonia in Argentina. With A10 Thunder CGN solution, it can scale up its CGNAT services while delivering on its reputation for high-quality internet services. And this bodes well for SS Servicios' future.

“Our cost to use Thunder CGN was effectively zero because we were able to reduce our customer support costs by 90 percent”

– Diego Mayán
CTO, SS Servicios



About SS Servicios

SS Servicios believes that #EveryConnectionIsPossible. Based in Santa Cruz, Argentina, the company provides internet services to residential customers, businesses, and public entities in Rio Gallegos, Las Heras, Puerto San Julian, Tres Lagos, La Esperanza, 28 de Noviembre, Rio Turbio, El Calafate, Pico Truncado, Comandante Luis Piedra Buena, Perito Moreno, Santa Cruz, and Governor Gregores. It operates under three brands: SS Fiber, SS Business, and SS Rural.



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IPv4 exhaustion using CGNAT
IPv6 – Are We There Yet?

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A10 Networks (NYSE: ATEN) provides secure application services for on-premises, multi-cloud and edge-cloud environments at hyperscale. Our mission is to enable service providers and enterprises to deliver business-critical applications that are secure, available and efficient for multi-cloud transformation and 5G readiness. We deliver better business outcomes that support investment protection, new business models and help future-proof infrastructures, empowering our customers to provide the most secure and available digital experience. Founded in 2004, A10 Networks is based in San Jose, Calif. and serves customers globally.

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