

# A10

CASE STUDY

## Richweb Fuels Rural Broadband Growth With A10 Thunder CGN For Bare Metal

Rural Americans have fewer opportunities to participate in the digital economy than people living in suburban and urban areas. In fact, according to Pew Research, about 25 percent of rural Americans say a lack of high-speed internet is a problem. In these communities, pervasive digital inequity impacts everyone from kids in the classroom to small businesses to farmers on the cutting edge of agriculture technology.

*A10 Thunder CGN allows Richweb to be at the center of rural broadband services. Richweb provides the infrastructure services, such as routing, network address translation and peering, that electric co-ops need to deliver broadband to rural communities.*

— Mark Lea  
CEO and Cofounder, Richweb



Industry | Managed Services  
Service Providers



### Network Solution

A10 Thunder® CGN



### Critical Issues

- Deliver high-performance scalable network address translation (NAT) as part of a fast-growing infrastructure-as-a-service (IaaS) offering



### Results

- Enable electric co-op customers to more easily bring high-speed broadband to rural communities
- Achieve unparalleled CGNAT performance on industry-standard servers
- Dynamic provisioning and on-demand scaling of CGNAT

## The Challenge: Access to Reliable Broadband Services

Richweb, a managed services provider, is helping to bring digital equity to rural communities across Virginia. Driven by the community need, nonprofit electric cooperatives have turned their attention to delivering high-speed broadband to their members—often areas that national service providers have not been able to profitably serve.

*"We think it's important to provide broadband to rural communities," says Mark Lea, CEO and Cofounder of Richweb. "It's similar to the 1930s when these member-owned co-ops brought electricity to rural communities."*

By tapping into Richweb's infrastructure services, electric co-ops and other regional service providers can accelerate time-to-market by lifting the network engineering burden. "By partnering with Richweb for infrastructure-as-a-service, electric co-ops can invest more heavily in their last mile and deploy broadband faster to serve customers," says Lea.

## Selection Criteria

As part of its infrastructure services portfolio, Richweb wanted to provide carrier-grade NAT (CGNAT) services to help its electric co-op customers bring high-speed broadband to more Virginia residents.

High-performance, scalable CGNAT is part of a sustainable growth strategy for any service provider or enterprise. With CGNAT services, Richweb's customers can make the most of their IPv4 address allocations, enabling them to efficiently serve more subscribers and more connected devices.

## The Solution

Richweb chose A10 Thunder® CGN for Bare Metal to extend its customers' IPv4 address pools, and to ensure that critical network services are always available and reliable.

The bare metal A10 Thunder CGN leverages the same high-performance architecture and features of the A10 Thunder CGN appliances.

The bare metal A10 Thunder CGN deployments benefit from greater performance by avoiding the hypervisor associated with virtualized software, since they have direct access to the underlying hardware. A single instance of A10 Thunder CGN for Bare Metal offers up to 40 Gbps of throughput.

"The performance of A10 Thunder CGN for Bare Metal doesn't waver," says Jon Larsen, CIO and cofounder of Richweb, noting that open-source NAT products can experience unpredictable performance, impacting the subscriber experience.

Richweb deployed A10 Thunder CGN for Bare Metal on its preferred server platform, which lowered capital costs and simplified operations. Servers running the bare metal CGNAT software can be upgraded independently from the software, giving the engineering team greater flexibility as business expands. "I like the bare metal because we can throw more cores at it and we can scale on-demand," says Larsen.

Richweb's engineering and operations team was new to A10 Thunder CGN, but deployment was smooth. "I expected it to be more of a challenge to configure Thunder CGN for Bare Metal," says Larsen. "It was stupid-simple. Thunder CGN just worked."

*"The A10 Thunder CGN solution makes my life easier," says Larsen.*



## The Results: Reliable Infrastructure Services

A10 Thunder CGN allows Richweb to be at the center of rural broadband services," says Lea. "Richweb provides the infrastructure services, such as routing, network address translation and peering, that electric co-ops need to deliver broadband to rural communities."

Relying on Richweb for infrastructure services overcomes engineering and operational roadblocks for electrical co-ops and other broadband providers. Service providers can serve more subscribers while maximizing their IP address investments.



*"We allow customers to pack a lot more IPv4 subscribers behind A10 Thunder CGN," says Larsen.*

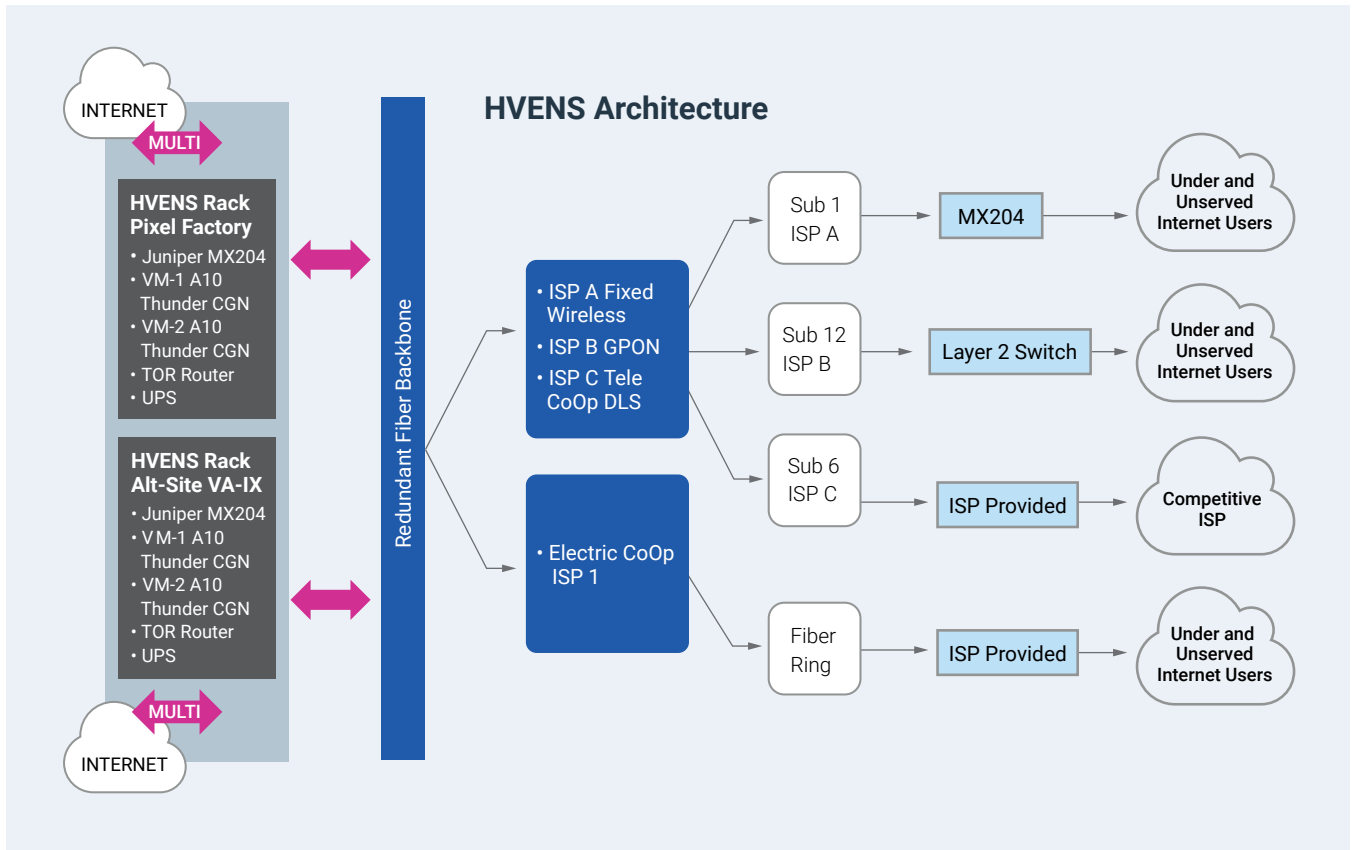


Figure 1: Richweb architecture diagram

## Success and Next Steps

The flexibility and efficiencies of IaaS have a broad appeal. Richweb sees a strong demand from small and midsize businesses that want to offload the design and operation of IT infrastructure. To meet customer demand, Richweb continues to expand its infrastructure services to serve businesses in the region. And that is good business for the short and long term.

*“Our goal is to have two data centers with geographic load balancing,” says Lea. “Once we have that in place, anyone in Virginia can plug into our infrastructure.”*



### About Richweb

Richweb, Inc. is a growing technology company located in Richmond, Virginia. Since 1995, Richweb, Inc. has specialized in developing comprehensive technology solutions that have been the key to success for enterprises and non-profits of all sizes. With over 22 years of experience, the company has blossomed with the technology, growing to offer a wide variety of software, internet, and networking services to fit the needs of its customers.







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## About A10 Networks

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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Part Number: A10-CS-80199-EN-01 AUG 2019