CASE STUDY

Jurassic Fibre Solves Scaling and Regulatory Requirements

Jurassic Fibre

Industry | Service Providers

Jurassic Fibre is on a mission to solve the digital infrastructure challenges that have plagued the UK's South West region. Historically underserved by high-speed connectivity, residents and businesses in the region are craving a fast, reliable Fibre to the Premises (FTTP) network. Jurassic Fibre is building a state-of-the-art fibre network that takes ultra-fast broadband direct to the customer's door.

> *The A10 Thunder CGN can deliver all the information we need, in the format we need it, and it will scale, too.*
>
> – Ryan Beney
> Senior Network Engineer, Jurassic Fibre

> *As a CGNAT engine, A10 Thunder CGN is one of the best I have come across.*
>
> – Richard Hamilton
> Head of IP Engineering, Jurassic Fibre

Network Solution

A10 Harmony Controller
A10 Thunder CGN

Critical Issues

- Scalability to meet anticipated growth requirements, reduce costs, and mitigate IPv4 exhaustion
- Visibility for regulatory compliance: the rapid growth of alternative network (altnet) providers meant Jurassic Fibre needed to meet rising Ofcom regulatory requirements for visibility by law enforcement and other stakeholders
- Greater resiliency in the face of DDoS attacks

Results

- A scale-out cluster design that will serve Jurassic Fibre for a decade
- Hundreds of thousands of pounds in cost-savings compared to buying individual IPv4 addresses
- Complete granular visibility over IP address usage for compliance purposes
- DDoS resiliency that eliminates customer impact in the face of an attack
- Governmental regulatory requirements were met
- IPv4 exhaustion remediated

Solving the South West UK's Connectivity Challenge

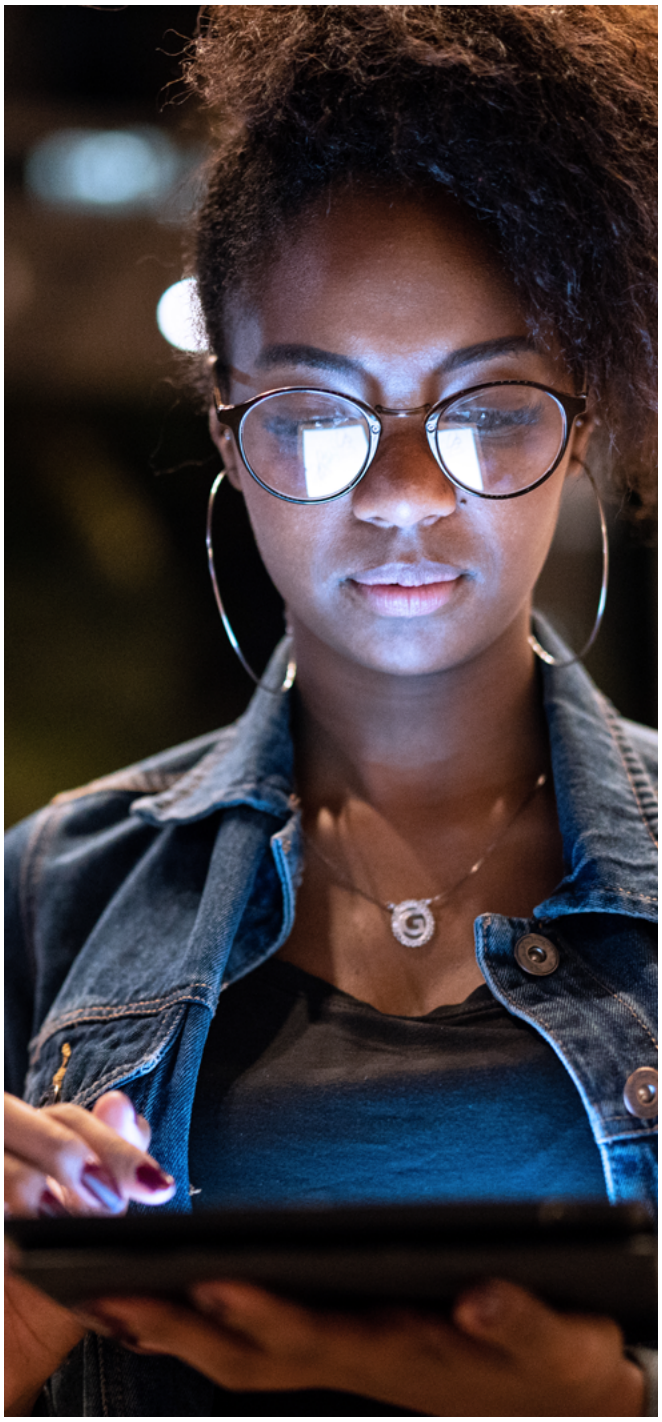
After an initial phase where growth quickly outstripped technology capability, the business adopted a smart technology investment strategy. It aimed to deploy solutions that could accommodate fast growth today and scale to meet future requirements over a ten-year period.

As Senior Network Engineer Ryan Beney explains, "As an engineer, you don't want to keep deploying your network every year. You want to keep the design and add to it, rather than redesign it all…You want to have a stable design that grows. That's what A10 gives us that our previous provider couldn't."

Achieving Future-proof Business Scalability and Regulatory Compliance

Jurassic Fibre has experienced rapid growth since its launch in 2018, quickly surpassing the capabilities of its initial network configuration. The business needed a technology partner who could provide an advanced carrier-grade network address translation (CGNAT) solution that would enable rapid and cost-effective scaling to meet future demand.

At the same time, the fast-growing alternative network (altnet) provider industry is squarely in the sights of UK communications regulator Ofcom. Ofcom-regulated organizations must comply with requests from law enforcement authorities permitted under the Investigatory Powers Act 2016 (IPA) and are also subject to the Regulation of Investigatory Powers Act 2000 (RIPA), which regulates the lawful acquisition and disclosure of communications data. These regulations require telecommunications service providers to offer visibility over IP address use and maintain historical log data that must be immediately disclosed to relevant authorities, such as law enforcement, when requested. Jurassic Fibre needed a solution that offered visibility over its data, something it was unable to achieve with its incumbent technology provider.



As Ryan explains, "CGNAT removes visibility, so the challenge was how do you keep the scale, keep the visibility, and have that information stored and clear so people such as Ofcom can go through that information when required?"

Comprehensive Proof of Concept Delivers Long-term Benefits

Jurassic Fibre wanted a solution that would scale exponentially and resolve IPv4 exhaustion to minimize costs and deliver a robust, reliable subscriber service. To ensure they chose the best solution, Ryan and his team conducted a comprehensive three-month proof of concept (PoC) exercise in the Jurassic Fibre lab, which is set up to mirror the production environment.

> *"Ryan elaborates, "We bought smaller A10 Thunder CGN devices for the lab, which allowed us to get used to the command-line interface, and the behavior of the technology so we knew what to expect. This gave us the confidence that, when we put it into production, if there were any problems, we would know how to troubleshoot them."*

The PoC also revealed the virtualization features that allow teams to run different scenarios to see how the network might behave in various circumstances. "The amazing thing with A10 Thunder CGN devices is that they have a virtual image, so you can put it inside a virtual machine and scale it to potential scenarios such as 'what if we have three data centers — how would the A10 Thunder CGN behave? How would the routing behave?'" This allowed the Jurassic Fibre operations team to learn about the A10 solution in a safe environment that Ryan feels was key to getting their support for introducing a new vendor.

Turning CGNAT from a Nightmare to a Pleasure

Following the successful PoC, during which the team identified the best configuration to work most effectively with their own network design, Jurassic Fibre deployed two A10 Thunder® 4440 CFWs in an implementation phase that took just two days.

The impact was immediate, transforming CGNAT from something that, as Ryan put it "no one likes, let's face it!", into a valuable tool for providing an outstanding customer experience.

The A10 solution has proved especially valuable in the face of DDoS attacks, with the ability to seamlessly switch subscribers to an alternative IP if one address is targeted, materially reducing downtime. Previously, all subscribers using that IP address suffered disruption while the legacy CGN solution was shut down and rebooted.

Saving Time, Reducing Expenditure, and Meeting Regulatory Requirements

Jurassic Fibre has achieved considerable savings in time and money thanks to its A10 Thunder CGN deployment, not to mention enhanced compliance with regulatory requirements.

Head of IP Engineering, Richard Hamilton, points to the cost-savings achieved, saying, "IPv4 exhaustion was a real problem. If we were to buy IPv4 addresses for each subscriber, we'd be looking at around £420,000 and that cost is rising. The A10 solution is a fraction of that figure." He also adds, "As a CGNAT engine, A10 Thunder CGN is one of the best I have come across."

Operationally, the time needed to respond to data requests from the regulator has dramatically reduced, and the information is easily accessible in the format required. Indeed, meeting regulatory requirements can be a Pandora's box of difficulty, but Jurassic Fibre has been enabled to meet them thanks to A10.

> *"Our previous provider could only deliver partial information and not at the rate we needed," says Ryan. "The A10 Thunder CGN can deliver all the information we need, in the format we need it, and it will scale."*

An Altnet Provider That's Fit for the Future

The team at Jurassic Fibre has built its own network monitoring tool, based on open source software tool, Grafana. This integrates easily with A10 Harmony® Controller, which delivers full network visibility over subscriber activity and IP address usage.

Any issues around the A10 Thunder CGN have been dealt with by consulting A10 Networks' comprehensive online library of supporting documentation.

"That's the reason we haven't needed to consult A10 Networks' support service directly," says Ryan. "Everything we need to know is available on the portal."

The team is confident that the solution they have implemented will support Jurassic Fibre's growth ambitions for the coming decade as it strives to build the digital infrastructure that will support the South West region's businesses and consumers.

About Jurassic Fibre

Jurassic Fibre is a Fibre-To-The-Premises broadband internet network developer based in Southwest England. The company was founded in 2018 to build out an ultra-fast network in Cornwall, Devon, Dorset and Somerset. Jurassic is focused on building 1Gbps+ FTTP networks to business and homes across the region. In February 2019, Jurassic Fibre was acquired by Fern Trading Limited, which is advised by Octopus Investments.

Jurassic Fibre

Find out how to manage
IPv4 exhaustion using CGNAT

IPv6 – Are We There Yet?

Download eBook

Request a live demo
and experience the

A10 Networks Difference

Schedule a Demo

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.

For more information, visit A10networks.com and follow us @A10Networks.

Learn More

About A10 Networks

Contact Us
A10networks.com/contact

Part Number: A10-CS-80238-01 JAN 2023