

# Elevate Fiber

## Faster Error-Free Configuration with Automated DDI



### Project Objectives:

- Integrated DNS-DHCP-IPAM roll-out
- DNS security + SURBL reputation data feed
- Update the core network infrastructure
- Implement a system that could adapt for the future without frequent hardware refreshes
- Enable business growth

### Key Benefits:

- Improved scalability and agility
- Time savings and increased productivity due to fewer manual tasks
- Reduction in misconfigurations thanks to «IP source of truth» repository
- Simpler maintenance thanks to DNS redundancies
- Revenue assurance using techniques like walled gardens
- Stronger security and more frequent behavioral quarantining based on threat intelligence

Elevate Fiber is a privately-held fiber broadband provider serving southwest Colorado, powered by the Delta-Montrose Electric Association (DMEA). Founded in 2016, Elevate was born out of cooperative-member demand for better high-speed internet options in the service area. Elevate currently serves roughly 10,000 active subscribers and continues to grow.

*“ The integrity of our network has improved because of the integrity of our data, which is huge.”*

Former Network Engineering & Operations Supervisor



## Situation and Challenges

Elevate Fiber experienced a high growth demand in early 2017. However, their network team already had a long list of core infrastructure needs and a budget that hadn't planned for a rapid expansion--on top of that, public promises about the company growth forced teams into a very, very short timeline to make updates. Elevate decided that the most expedient way forward was to rely on IP addresses managed manually on spreadsheets and a Microsoft 2012 DNS-DHCP server. The Network Engineer at the time had come from this type of environment (e.g. Linux or BIND servers, and management of IP addresses via spreadsheets, a coded database, or separate Solarwinds product). While this traditional method was familiar to many--and therefore more straightforward to implement--in the long run it was error-prone, relied on disparate systems, and was unable to scale.

As the year progressed and Elevate acquired more customers, the company resources expanded. Elevate holistically assessed the health of their network and decided to start over and "do it right" with an integrated DDI solution- one that focused on automation and efficiency and could better serve the adaptations that future technology would require.

## Solution Implemented

To meet the challenges of upgrading the system, Elevate searched for provider options who offered integrated DDI (DNS-DHCP-IP Address Management) solutions. The company narrowed the field to EfficientIP, Infoblox and BlueCat Networks, but ultimately chose to work with EfficientIP. Founded in France and serving a more focused client set, Elevate liked that EfficientIP was different than everyone else. The Elevate team remembers wanting a partner who could "break the mold of your typical Silicon Valley tech company."

Elevate Fiber was impressed with the workflow delegation capability of EfficientIP's solutions. It also offered an overlay management capability for Microsoft DNS and DHCP, which meant they could retain their existing investments. Elevate also found EfficientIP's GUI much more intuitive to use compared to competitors. Finally, EfficientIP offered the most comprehensive services at the best price.

The Elevate Fiber overall solution consisted of five physical SOLIDserver appliances. Dakota Cole, who became Network Engineering and Operations Supervisor in 2020, oversaw the full deployment of SOLIDserver in 2017. Pleased with the platform and having mastered DDI, Elevate Fiber began looking for additional functionality within the SOLIDserver suite of offerings. In 2019 the company deployed the DNS Guardian module, which provides adaptive security to ensure service continuity and data protection, and a SURBL data feed subscription, which provides security intelligence from global traffic analysis. Elevate also added two SOLIDserver physical appliances to help optimize network performance. These additional services paired nicely with Elevate's DDoS solution from Arbor Networks, which also provides protection and network visibility.

***"How long could we NOT use dedicated DNS security, and avoid any issues? [...] For our purposes, the combination of DNS Guardian, SURBL and Arbor is the perfection of a core network security system"***

--Former Network Engineering and Operations Supervisor



## Results

Elevate Fiber has seen enormous benefits from the switch to DDI. This is most stark in terms of time saved. “To deploy a new market with DHCP,” Cole says, “I can have it ready to go in a couple of minutes now, with the use of the rules in our DDI auto-populating the DHCP scope and pool, as well as the DHCP options...to put it in perspective, before it would have probably taken me about an hour.”

IP duplication also went to zero right away, since the engineering team no longer relied on manual spreadsheets. They also now have redundancies for both DHCP and DNS; for DHCP they set up a relay system, when before they only had one server, and for DNS they have 2 SOLIDservers at a more remote office location that can support in case there is maintenance needed in the main office location.

The company has also enhanced security via DNS Guardian and a SURBL subscription. The product is quarantining bad or questionable traffic, with behavioral quarantines happening at a rate of about ten per hour between their two caching servers.

The overall improved accuracy of data- with DDI now acting as a shared repository of data- has also allowed Elevate Fiber to become more creative with how they use DDI. The engineering team has built a walled garden that utilizes views on the DNS Guardian caching side in order to redirect subscribers with lapsed payment to the bill pay page; they can now capture about 60% of lapsed subscribers in order to pay their bill online so service is not shut down. This solves the issue of the laborious manual reconnect process when people don't pay their bill, and also aid in revenue income for Elevate Fiber.

*“SOLIDserver suits a lot of needs, and we like it because it gives junior support teams like our NOC, Tier 1 and Tier 2 teams the opportunity to start working in the system, which is the only way to learn that engineering content long term.”*

--Former Network Engineering and Operations Supervisor

## Plans For The Future

Looking ahead, Cole hopes to eventually move off of physical servers entirely, probably virtualizing all SOLIDservers or putting servers into the cloud. He would also want to continue to develop workflows for delegation and automated processing. Above all, Elevate wants a network built around performance and to understand the follow-on effects of latency.

The Elevate Fiber team feels that using integrated DDI requires a shift in thinking. So much more functionality is possible, but that requires changes to best practices and regulations that can keep the company- and its employees- consistent. Once consistency is achieved, the sky is the limit.



As one of the world's fastest growing DDI vendors, EfficientIP helps organizations drive business efficiency through agile, secure and reliable network infrastructures. Our unified management framework for DNS-DHCP-IPAM (DDI) and network configurations ensures end-to-end visibility, consistency control and advanced automation. Additionally, our unique 360° DNS security solution protects data confidentiality and application access from anywhere at any time. Companies rely on us to help control the risks and reduce the complexity of challenges they face with modern key IT initiatives such as cloud applications, virtualization, and mobility. Institutions across a variety of industries and government sectors worldwide rely on our offerings to assure business continuity, reduce operating costs and increase the management efficiency of their network and security teams. Copyright © 2022 EfficientIP, SAS. All rights reserved. EfficientIP and SOLIDserver logo are trademarks or registered trademarks of EfficientIP SAS. All registered trademarks are property of their respective owners. EfficientIP assumes no responsibility for any inaccuracies in this document or for any obligation to update information in this document.

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