



UNITI'S STRATEGIC NETWORK EVOLUTION

Unleashing Open Networking for Unmatched Customer Experience

OVERVIEW

With the main R&D center in Mobile, Alabama, Uniti is the second largest independent fiber provider in the United States, and an internally managed REIT (real estate investment trust). Their network spans across the nation with over eight million strand miles of fiber and powers digital endeavors of a diverse clientele including wireless carriers, wireline providers, hyperscale data centers, content creators, cable MSOs, and other wholesale customers.

Guided by an unwavering commitment to innovation and efficiency, Uniti embarked on a transformative journey to proactively enhance its IP Backbone infrastructure, ensuring an unparalleled quality of service for its ever-growing customer base. The strategic decision to deploy open networking solutions was rooted in a visionary

approach to staying ahead of demand, optimizing costs, and contributing to a greener and more sustainable future.

To realize this strategic vision, Uniti engaged in a collaborative partnership with IP Infusion, UfiSpace, Edgecore and EPS Global, jointly delivering a highly efficient and adaptable network infrastructure that empowers Uniti to proactively meet the evolving demands of its diverse customer base. The integrated solution optimized operational costs, and resulted in an impressive 80% reduction in power needs along with a significant reduction in rack space. The achievement underscores Uniti's commitment to sustainability, cost-efficiency, and delivering an unmatched quality of service to its clients.

HIGHLIGHTS

The design developed with **IP Infusion** and **EPS Global** which harnessed the capabilities of **IP Infusion**, **UfiSpace** and **Edgecore**, delivered a solution characterized by the following key features:

- **Improved ESG score** - 1/6th of the energy consumption compared to legacy proprietary solutions
- **Reduced CAPEX and OPEX** - 5 times more network interfaces for 1/3 of the cost
- **Single Point of Purchase** - offered through EPS Global
- **Single Point of Support** - offered by IP Infusion
- **Innovative Routing and Switching Features** - mature support for BGP and MPLS
- **Seamless Integration** - straightforward integration with existing infrastructure through Netconf, CLI, OpenConfig, and Ansible

Why IP Infusion?

“As a front-runner and visionary in the domain of network service provisioning, our unwavering commitment is centered around delivering reliable and comprehensive network services, promoting sustainable operational practices, and optimizing costs.

In line with these commitments, we continually evolve our network infrastructure. In recent years, while endeavoring to scale our IP Core network, we confronted two substantial challenges. First, the investment in IP Core infrastructure became cost-prohibitive, with line cards for legacy chassis demanding upwards of \$60,000 for a single 12-port configuration. This financial strain extended to the frequent replacement or addition of chassis, often already at full capacity, along with associated licensing expenses. Secondly, a significant power draw was realized, particularly highlighted following the deployment of open networking infrastructure.

After a thorough evaluation process and the initiation of an open networking solutions deployment, a notable outcome materialized in the form of substantial CAPEX savings. Acquiring a fully-fledged router at one-third of the cost of a traditional line card, offering five times the number of network interfaces, proved to be a pivotal achievement.

“In addition to directly addressing immediate financial concerns, this strategic shift underscores our dedication to sustainable and energy-efficient practices in network operations. Notably, the migration from the monolithic chassis, drawing 56 to 60 amps of DC power, to the efficient OcNOS and UfiSpace solution, significantly reduced power consumption to 6 to 7 amps. This reduction surpassed initial expectations, emphasizing the profound impact of embracing open networking solutions on both operational efficiency and overall expenditure.”

- Graham Wooden, IP Services Engineering Senior Director for Uniti

The Deployment

Uniti strategically chose IP Infusion, UfiSpace, and Edgecore for their open networking deployment. IP Infusion's comprehensive support for BGP and MPLS aligned with Uniti's routing requirements, while UfiSpace provided essential port speeds and densities. EPS Global streamlined the entire process, delivering hardware solutions and comprehensive value-added distribution services. The integration into the existing network showcased a harmonious blend of innovation and established practices, leveraging cutting-edge technologies while maintaining reliance on familiar tools like the Command Line Interface (CLI).

SOFTWARE PRODUCTS

- **IP Infusion OcNOS SP MPLS**

HARDWARE PRODUCTS

- **UfiSpace S9600-56DX** – 2U 48x 100GE QSFP28, 8x 400GE QSFP-DD Open Aggregation Router
- **UfiSpace S9600-32X** – 2U 32x 100GE QSFP28 Open Aggregation Router
- **UfiSpace S9510-28DC** – 1U 2x 100GE/400GE QSFP-DD, 2x 40GE/100GE QSFP28, 24x 10GE/25GE Open Aggregation Router
- **Edgecore AS7946-74KSB** – 2U 64x 25GE SFP28, 8x 100GE QSFP28, 1x 100GE QSFP-DD Open Aggregation Router
- **Edgecore AS5916-54XKS** – 1U 6x 10GE SFP+, 8x 1GE SFP, 4x 1GE Base-T RJ45 Open Aggregation Router

“IP Infusion’s market maturity and history in providing carrier-grade solutions to the networking industry makes us the logical choice for an alternative to cost-intensive, monolithic chassis vendors. Our focus on performance-intensive networking software has made our platform indispensable for market leaders such as Uniti who are looking for scalable open networking with carrier-grade robustness and stability.”

- Atsushi Ogata, CEO of IP Infusion

“Open networking gives leading organizations like Uniti more flexibility to choose the best hardware and software combination for their needs. In our experience with customers where we were deployed, most of the time they actually find the support better: They have better access to the technical resources within IP Infusion than with a traditional vendor, and typically they’re pleasantly surprised.”

- Alan Fagan, Director of Sales, Americas, for EPS Global

Summary

Uniti's transformative shift to open networking yielded multifaceted benefits, prominently marked by substantial cost savings. The company successfully slashed power consumption by over 80%, a remarkable feat that not only contributes to sustainability goals but also signifies a tangible reduction in operational costs. The adoption of open networking infrastructure further delivered significant CAPEX reduction through the use of white box platforms and OcNOS, and was facilitated by the procurement simplicity enabled through a collaborative partnership with EPS Global. This one-stop shopping experience streamlined the acquisition of network solutions and services, mitigating supply chain risks by eliminating dependency on a single vendor.

A crucial element in this success story was meticulous planning and testing. Extensive evaluation processes and end-to-end testing minimized risks, ensuring a smooth transition. Leveraging familiar tools like the Command Line Interface (CLI) provided operational comfort throughout the deployment. The strategic move towards disaggregation allowed for unparalleled flexibility and scalability in Uniti's network. This adaptability not only accommodates changing technologies but also positions the company to navigate future challenges seamlessly. Additionally, the commitment to sustainability was evident in the reduction of environmental impact through a decrease in power consumption, aligning with Uniti's dedication to responsible business practices and the minimization of e-waste through standardized hardware in open networking.

“Our strategic shift to open networking demonstrates our unwavering commitment to innovation, cost-efficiency, and sustainability. By embracing open technologies and collaborating with industry-leading partners, we have successfully transformed our network infrastructure, enabling us to deliver unparalleled quality of service to our customers while contributing to a greener future.”

- Graham Wooden, IP Services Engineering Senior Director for Uniti

Contact for More Information:

For more information on the OcNOS software, please contact sales@ipinfusion.com.

ABOUT IP INFUSION

IP Infusion is a leading provider of open network software and solutions for carriers, service providers and data center operators. Our solutions enable network operators to disaggregate their networks to accelerate innovation, streamline operations, and reduce Total Cost of Ownership (TCO). Network OEMs may also disaggregate network devices to expedite time to market, offer comprehensive services, and achieve carrier grade robustness. IP Infusion network software platforms have a proven track record in carrier-grade open networking with over 500 customers and over 10,000 deployments. IP Infusion is headquartered in Santa Clara, Calif., and is a wholly owned and independently operated subsidiary of ACCESS CO., LTD. Additional information can be found at <http://www.ipinfusion.com>

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Phone | +1-877-699-3267 Email | sales@ipinfusion.com Web | www.ipinfusion.com