



## VIRTUAL TECHNOLOGIES AND SOLUTIONS (VTS) – TRANSFORMING CONNECTIVITY IN BURKINA FASO

### Background

Virtual Technologies and Solutions (VTS), an Internet Service Provider (ISP) based in the sovereign state of Burkina Faso in Africa, was launched in 2016 with a mission to deliver fast, reliable, and scalable internet connectivity across the region. VTS initially revolutionized internet access in Burkina Faso by deploying a 200G Cassini-based solution that connected the capital city, Ouagadougou, with major undersea cables in Accra, Ghana. This strategic infrastructure upgrade marked the beginning of VTS's journey to becoming a leading ISP in the region, with a focus on innovation, customer satisfaction, and the adoption of cutting-edge technology.

EPS Global is VTS's distributor of choice, providing the hardware, software and tech support for the deployment referenced in this case study. EPS Global specializes in open disaggregated solutions, bringing together the hardware (switches, optics, cables & more) along with

open NOS software to provide turnkey solutions for their customers, delivering value and expertise to their business.

### Challenges

- **Rapidly Increasing Traffic:** The growing need for bandwidth-intensive applications and services required a scalable and reliable network infrastructure.
- **Diverse Service Requirements:** VTS needed to cater to various customer segments, including residential users, enterprises, banks, and telecom operators, each with unique service demands.
- **Network Automation and Management:** Managing and provisioning network services across a growing infrastructure became increasingly complex.
- **Interoperability:** Integrating various platforms and technologies to ensure seamless operation across their network presented additional challenges.

## HIGHLIGHTS

VTS's partnership with IP Infusion has transformed Burkina Faso's internet landscape through the deployment of an open, scalable, and flexible network infrastructure:

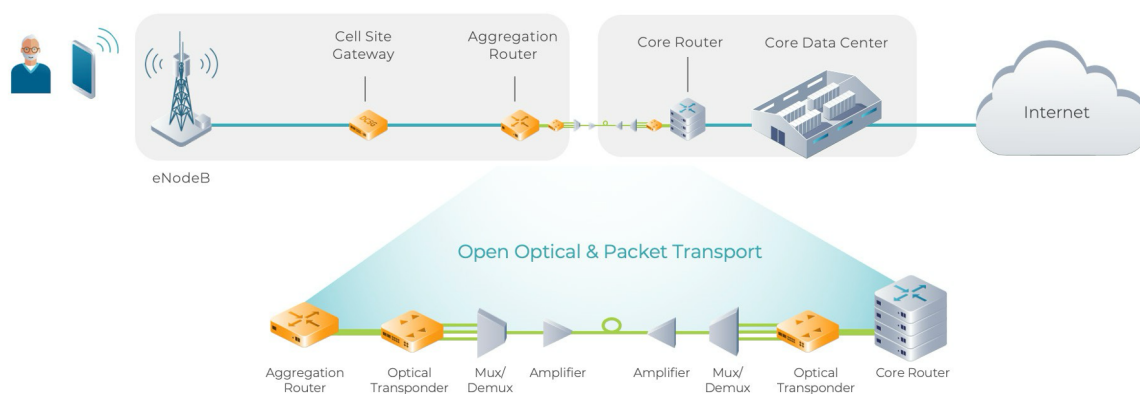
- **Open Networking Flexibility:** The ability to choose best-of-breed hardware and software solutions, coupled with IP Infusion's OcNOS, empowers VTS to create a highly adaptable network capable of meeting evolving business needs.
- **Green Networking:** Deployment of fanless routers powered by solar energy sources, such as the UfiSpace S9502-12SM, enabling environmentally friendly and more robust network expansion.
- **Modernized Scalability:** Rapidly scaling services from low to high bandwidth demands (1Mbps to 1Gbps+) to meet growing user needs.
- **Advanced Service Delivery:** Introduction of cutting-edge network services like EVPN and LDP, enabling enhanced connectivity and reliability.
- **Strategic Partnerships:** Integration with major tier-1 operators to expand network reach and improve service quality.

## Solution

Faced with rapidly increasing traffic, diverse service requirements, and the need for streamlined network management, VTS turned to IP Infusion's OcNOS. OcNOS enabled VTS to build a scalable, interoperable network infrastructure that efficiently met the demands of residential users, enterprises, banks, and telecom operators.

The journey began with VTS's deployment of the Edgecore AS7716-24SC Cassini platform powered by OcNOS RON, marking a significant infrastructure upgrade by establishing the first 200Gbps link between Ouagadougou, Burkina Faso, and Accra, Ghana. This deployment substantially improved internet connectivity in the region, laying the groundwork for further expansion.

Building on the success of the initial deployment, VTS expanded its network using a combination of Edgecore and UfiSpace routers and switches, including the Edgecore AS5912-54X for IP Routing/MPLS PE and the UfiSpace S9500-30XS for Disaggregated Cell Site Gateway (DCSG) roles. This multi-platform approach provided VTS with the flexibility and scalability necessary to meet diverse customer demands, including backbone services for major regional and global telecom operators. Leveraging the capabilities of OcNOS, VTS introduced advanced routing and MPLS features, enabling them to offer EVPN-based services and scale existing LDP-based services.



The integration of the S9502-12SM fanless router, powered by solar energy sources, into remote and environmentally sensitive areas underscored VTS's commitment to sustainable networking. This green network approach not only aligned with VTS's environmental goals but also supported their expansion into managed CPE services for enterprise customers, including major banks.

With over 90 deployed units in the field and another 15 in testing, VTS is poised to surpass 100 units. The network now supports critical banking services and carries significant portion of Burkina Faso's national traffic. The successful deployment has empowered VTS to provide backbone services to major telcos and ISPs, with traffic expected to soon exceed 400Gbps.

## Deployed Solutions

### ■ MPLS PE Routers:

- NOS: IP Infusion OcNOS SP MPLS 800
- Whitebox: Edgework AS5912-54X, 48 x 1G/10G SFP+, 6 x 100G QSFP28 Open Router

### ■ Disaggregated Cell Site Gateways:

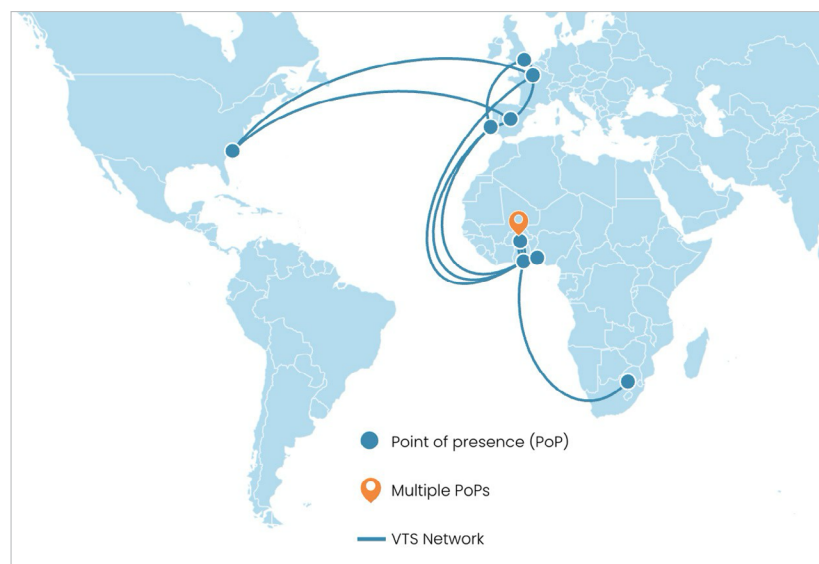
- NOS: IP Infusion OcNOS SP MPLS 300
- Whitebox: UfiSpace S9500-30XS, 20x 1G/10G SFP+, 8 x 10/25G SFP28, 2x 40/100G QSFP28 Open Access Router

### ■ Fanless Routers:

- NOS: IP Infusion OcNOS SP MPLS 32
- Whitebox: UfiSpace S9502-12SM, 8x 100M/1G SFP, 4x 1/10G SFP+ Open Access Router

### ■ Open Optical Transponder:

- NOS: IP Infusion OcNOS RON MPLS 3200
- Whitebox: Edgework AS7716-24SC, 16x 100G QSFP28, 8x 100/200G Coherent Slots



## Summary

VTS's partnership with IP Infusion has been instrumental in transforming Burkina Faso's connectivity landscape. From the initial deployment of the Cassini platform to the extensive use of OcNOS across multiple routing and switching platforms, VTS has successfully scaled its network to meet the growing demands of its customers. The introduction of advanced features, such as EVPN and LDP services, along with the ability to integrate various platforms seamlessly, has positioned VTS as a leading ISP in the region. With ongoing investments in their infrastructure and a commitment to green networking, VTS continues to pave the way for the future of internet connectivity in West Africa.

VTS's success story is a testament to the power of open networking and the critical role that IP Infusion's disaggregated solutions play in enabling scalable, reliable, and innovative network infrastructures.

“Collaborating with IP Infusion has been a game-changer for VTS. The integration of OcNOS® has not only enabled us to expand our network and introduce advanced services like EVPN and LDP, but the dedicated support from IP Infusion has ensured seamless operation across diverse platforms. This partnership has empowered us to elevate our service quality and solidify our position as a leader in West Africa's connectivity landscape.”

– Issam Fayad, CTO of Virtual Technologies and Solutions

“EPS Global is proud to have worked with our software partner, IP Infusion, and our hardware partners, Edgecore, and Ufispac to build the solutions that have allowed VTS to transform Burkina Faso's internet landscape. We look forward to continuing the journey!”

– Alan Fagan, Vice President of Sales Americas of EPS Global

“We are honored to deepen our partnership with VTS as they build on the foundation laid by the Cassini deployment. With OcNOS® at the core of their network evolution, VTS has embraced a future-proof, scalable solution that addresses the growing demands of their diverse customer base. This collaboration is a testament to the power of open networking in transforming connectivity across the region.”

– Atsushi Ogata, President and CEO of IP Infusion

## 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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