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# Virtual Technologies and Solutions extends Network Capacity within Burkina Faso



*The first commercial deployment of the Cassini solution in Africa*



**Ciara McCarthy**  
 Marketing Director  
 EPS Global

EPS Global is VTS's distributor of choice, providing the hardware, software and tech support for the deployment referenced in this case study.



**Abdou Dia**  
 Managing Director  
 Virtual Technologies and Solutions (VTS)

EPS Global specialises 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. Our engineers advise customers on the best product set to suit their business needs, offering software configuration and bundling of solutions for hassle-free, consolidated shipments from our 28 global locations.



**Issam Fayad**  
 CTO  
 Virtual Technologies and Solutions (VTS)

EPS Global Marketing Director Ciara McCarthy asks the questions.



## Can you tell me about your business?

**AD:** Virtual Technologies and Solutions was launched in 2016 by a small, yet dedicated team who wanted to create an Internet Service that would provide fast and reliable connectivity in Burkina Faso. Our approach is client-centric, and we are focused on delivering a level of service and support to our clients unparalleled by any other provider in Burkina Faso. We offer exceptional support 24/7 to ensure we are meeting the needs of even the most demanding clients. We are experienced, approachable and committed to what we do.

Our vision has always been to provide a full range of services at affordable prices to suit a variety of clients including residential, wholesale, enterprise and more. We are unique as our core global internet connectivity is presented in Ghana, United Kingdom, France, Portugal, South Africa, Spain, and the United States where we have multiple transit and peering connections with a variety of global networks. This allows us to ensure our clients are connected in the shortest amount of time using the most direct paths. We continue to invest heavily in our infrastructure ensuring

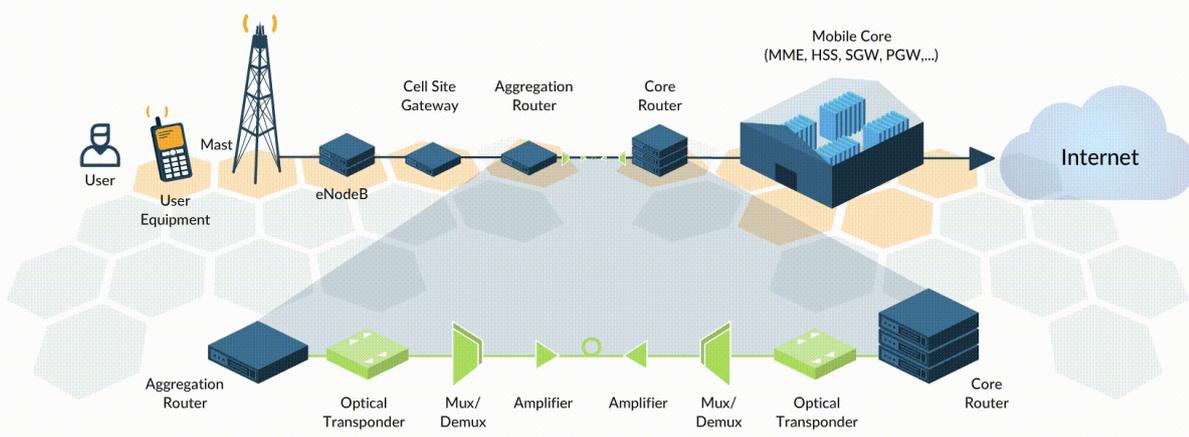
it is future proof to meet demand, and also ensuring we stay at the forefront of being the leading ISP in the country and region. We have come a long way in short period of time, and we represent one of the success stories on the Burkina Faso Internet market and we have done so with minimal advertising campaigns but purely from customer loyalty and word of mouth.

## What challenges was VTS brought in to solve?

**AD:** To extend the network capacity within Burkina Faso, connecting the cities of Ouagadougou, the capital of Burkina Faso, with Dakola, almost 200km away.

## What solution did VTS provide?

**IF:** The production units of the Edgecore Network's Cassini solution were used to interconnect Ouagadougou with Dakola through 200km of 200Gbps fiber allowing VTS to extend its capacity from West Africa Cable System (WACS), ACE and MainOne. The project uses Cassini, TIP's disaggregated coherent switch and open packet transponder built by Edgecore Networks, and the networking stack of OcNOS, the industry's full-featured network OS



Open Optical & Packet Transport Architecture



Cabling



Transceivers



Open Networking Switches



Cassini Packet Transponder



Servers



Disaggregated Cell Site Gateway

for white box disaggregated network solutions that provides transition from traditional networks to open networks. This is the first commercial deployment of the Cassini solution in Africa.

**AD:** We leveraged TIP's Cassini solution to dramatically increase bandwidth while reducing TCO. IP Infusion's fully validated solution is key to our efforts to link these two major cities. The optical transport solution featuring IP Infusion's OcNOS and the Edgecore Cassini transponder platform with optical modules helped VTS to easily add high-capacity fiber links which improved our operational experience. This 200Gbps link is the first of its kind in Burkina Faso and will deliver faster, more reliable connectivity for all of our customers.

### Which products were deployed?

**IF:** We used [Edgecore Networks' Cassini solution](#)<sup>1</sup> and [5912-54x](#)<sup>2</sup> whitebox switches with OCNOS<sup>3</sup> from IP Infusion. We incorporated a range of optical modules ranging in speeds from , using a combination of copper cabling and active optical cables for interconnect. We also used [SuperMicro's SuperServers](#)<sup>4</sup> and [ufiSpace's Disaggregated Cell Site Gateway](#)<sup>5</sup> (DCSG).

### What were the results?

**IF:** VTS was able to launch a capacity of 200Gb per one optical module and the fact that the Cassini transponder has eight modules, we could push the capacity up to 1.2Tb per Cassini box. This provided flexibility on capacity provisioning which is serving the growing demand for network connectivity in Burkina Faso. The centralized management and provisioning layer of IP Infusion's OcNOS helped VTS to adopt network automation which makes service provisioning and configuration change faster and easier than before.

### What made you choose EPS Global over the competition?

**AD:** EPS Global works with a wide range of innovative technology vendors and their team is well recognized for their great customer service and tech support. They are extremely well positioned in the open networking ecosystem, they have partnerships with almost all hardware and software network disaggregation players around the globe. They put us in touch with many vendors to explore all options that would satisfy our business needs, and they supported us through our Proof of Concepts to find the right solution.



1 Cassini was developed by TIP's Open Optical & Packet Transport (OOPT) Project Group and is the industry's highest capacity and first modular open packet transponder, offering a flexible mix of 100 Gigabit Ethernet (GbE) packet switching ports and 100/200 Gbps coherent optical interfaces for data center interconnect, service provider metro, and backhaul use cases.

2 The Edgecore AS5912-54X is a Data Center and Service Provider bare metal edge switch which meets the high-performance, availability, and network-scaling requirements of cloud data centers and carrier access providers. The AS5912-54X provides switching at Layer 2 or Layer 3 across 48 x 10 GbE ports and 6 x 100 G uplinks. The switch can be deployed either as a Top-of-Rack switch, as part of a 100 GbE or 40 GbE distributed spine, forming a non-blocking folded-Clos data center fabric, or as a carrier access switch. The switch is rack mountable in a standard 19 inch rack.

3 OcNOS® is the industry's first full-featured Carrier-grade NOS for bare metal switches. OcNOS is a robust, programmable and innovative operating system, featuring a single software image that runs across the entire portfolio of Open Compute platforms from leading network device vendors. This guarantees consistent operations, workflow automation and high availability, while significantly reducing operational expenses.

“ EPS Global works with a wide range of innovative technology vendors and are well recognized for their great customer service and tech support ”

What stood out for you about working with EPS?

AD: The customer service and tech support EPS Global offers is not like an ordinary distributor or reseller. They go above and beyond to ensure professional services. For instance, they assisted with vendor support in an emergency situation that arose. Another example, if you, as the customer, needs to work with a vendor that they do not currently have partnership with, they will build a relationship with that vendor in order to source the optimum products for you. EPS Global stands alongside its customers to ensure that they get the products and the services they need and this is something that we valued greatly, in this specific project, and for future projects.

IF: The EPS team has extensive experience and knowledge about both traditional and cutting-edge technologies, which enabled them to understand our needs very well and recommend the best solution. This helped us to choose the highest performance equipment that suited our needs, and at the same time, at the most competitive cost we had come across.

4 Supermicro X11 SuperServers support the latest 2nd generation Intel® Xeon® Scalable processors and offer up to 6TB DDR4-2933MHz memory in 24 DIMMs, Intel® Optane™ DC Persistent Memory, 7 PCI-E slots, SAS 3.0/SATA 3.0/NVMe hot-swap HDD/SSD support, 10GBase-T/10G SFP+/56Gbps FDR InfiniBand networking options, redundant Titanium Level (96%+) Digital power supplies, and IPMI 2.0 plus KVM with dedicated LAN.

5 Future proof disaggregated cell site gateway router with dense high-speed interfaces (100M/1G for legacy, 10G/25G for 5G, and 40G/100G for backhaul), full timing features (SyncE and IEEE 1588v2), and QoS capabilities. It is equipped with a power processor, 3GB deep buffer and the necessary timing ports to accommodate the evolving cell site requirements as telecoms transition towards 5G

