

Exponential-e accelerates VPN service delivery and automates IT tasks across networking technologies with Nuage Networks



Exponential-e is a British provider of cloud connectivity, business Internet, unified communications and IT services. With their 100GigE core network, they are a leader in WAN service delivery, including Layer 2 and Layer 3 Virtual Private Networks (VPNs), with enterprise-grade security and end-to-end Service Level Agreements (SLAs). They are the UK's pioneer of corporate Virtual Private LAN Service (VPLS), which allows geographically diverse locations to connect as if on the same LAN. Exponential-e, already a customer for Nuage Networks datacenter SDN solution, has chosen the Nuage Networks Virtualized Network Services (VNS) platform to accelerate the provisioning of WAN services and incorporate remote sites using both Multiprotocol Label Switching (MPLS) and broadband Internet.

Business benefits

Reduced time and complexity to bring up remote sites and connect to corporate WAN

Nuage Networks VNS is a Software Defined Wide Area Networking (SD-WAN) solution that allows Exponential-e to automate the provisioning and configuration of remote VPN sites.

Seamless connectivity and management of remote sites using multiple networking technologies for more advanced service delivery

Exponential-e provides high-quality corporate WAN services using MPLS, but many sites are accessible only through a broadband connection from the local ISP. Nuage Network VNS allows seamless connectivity and management across sites using both technologies, making communication transparent with any other site.

Increased total addressable VPN market for greater revenue

The ability to incorporate "off-net" sites with only broadband connectivity and to seamlessly connect them to the 100GigE core MPLS cloud network allows Exponential-e to offer a "hybrid" VPN service including high-quality corporate services to a larger addressable market.

The challenge

Exponential-e has long been a leader in offering MPLS VPN services to customers and providing access to their fiber-based 100GigE core network. They were challenged to connect remote sites that were considered “off-net”, i.e. that could not be connected directly to the MPLS backbone. These sites relied primarily on local ISPs, which complicated the setup because of the number of intermediaries and the cost and complexity of the contracting and provisioning process.

“Our strategy for next-generation WAN connectivity to cloud-based services is perfectly aligned with Nuage Networks’ SD-WAN technology. Leveraging their Virtualized Network Services platform will accelerate the delivery of our services and will help our customers significantly reduce their WAN costs through greater operational efficiency, IT automation and faster deployments.”

— Chris Christou, Director of Engineering at Exponential-e

The solution

The Nuage Networks Virtualized Network Services (VNS) solution is the leading platform to bring Software Defined Networking (SDN) principles and policy-based automation to WAN connectivity. Having evolved from telco-grade network operating system technology used in some of the world’s most scalable routers, VNS uses many of the same principles as the current Exponential-e MPLS cloud infrastructure. It unifies the management and provisioning of virtual networks regardless of the underlying network technology, allowing seamless integration of MPLS and broadband Internet-connected sites.

The new hybrid VPN solution allows Exponential-e to rapidly add remote sites using any network connectivity and to augment existing WAN links with minimal configuration. Furthermore, the VNS solution uses industry-standard Ethernet VPN (EVPN) technology to dynamically exchange routing information between existing MPLS and VNS sites, making communication transparent between sites.

Nuage Networks VNS provides a broad spectrum of network and services automation that can accelerate IT processes as well as increase the efficiency of the WAN. It even touches security and other application delivery services, besides the network links, to fully address application requirements and provide better service to end users.

The remote site WAN gateway appliance can consist of virtualized software on commodity hardware or be a pre-configured dedicated appliance suitable for the scale and service requirements of the site. Whatever scale and services are required, the right, most cost-effective form factor can replace proprietary branch routers without compromising agility or services.

FIGURE 1. The Nuage Network VNS platform consists of a centralized SDN controller and Network Services Gateway (NSG) at the remote site. The NSG contains all required network services in software that can be deployed on cost-efficient hardware platforms suitable to any scale and form factor requirements for greater customer flexibility.

