HOPUS switches to Arista to deliver scalable yet cost efficient IP network and transit services for international content and service providers

Highlights

Challenge
HOPUS had experienced rapid growth that was stretching the technical limits of its legacy network architecture. Moving to an Arista solution provided a higher density and more scalable platform to allow it to meet its SLA's, whilst providing more flexible deployment scenarios plus enhanced automation for critical management tasks.

Solutions
- Arista 7280 Series Switches
- Arista 7500 Series switches
- Arista EOS®

Results
- Deep buffer technology to improve performance and reduce latency
- Cost- effective with increased port density and lower management overheads
- Cutting edge technology with timely feature upgrades to support innovation culture
- Fast and responsive technical support with a credible long-term product roadmap

HOPUS offer an innovative business model that delivers fair and transparent pricing for the IP and network transit markets. Following growing demand for its services, HOPUS turned to Arista Networks for a higher density and more cost-efficient network architecture to help it deliver low latency and the best quality of service to its growing community of internet service and content providers.

Project Background

HOPUS is an IP network and transit service that works with Internet access, content and service providers to offer a Unique Value Proposition that benefits all its members equally. HOPUS promotes a business model in which any member receiving and routing traffic on its network coming from HOPUS receives a payment, whilst any member sending out traffic to HOPUS is asked to pay a fair price to have this traffic delivered. Members connecting to HOPUS share the same contract, irrespective of size, profile or type of traffic.

Challenge

HOPUS' ambitious aims were born from frustration expressed by its launch partners who found it difficult to deliver content to certain networks due to restrictive IP transit arrangements. "Our goal is to deliver the best quality whilst making internet operators' investments and revenue streams clear, transparent and predictable," explains HOPUS CEO Philippe Duguet, "HOPUS also reduces the complexity of negotiating private interconnect contracts whilst offering a fair deal with everybody involved by playing by the same set of rules, irrespective of size."

At a technical level, members select and choose the routes they announce on the HOPUS route-server. Any member can then freely decide how to send its traffic to any other operator, through HOPUS or not. But once a route is announced, the announcing member is committed to accept traffic from others on the HOPUS network. HOPUS provides a service level agreement that delivers no packet loss, with a packet transit of less than 20ms on its national metropolitan network with 4h GRT with no congestion.

Solution

Since launching in 2014 with its first 3 founding members, HOPUS has grown rapidly due to its unique operating model. Its current list of 54 members includes major international carriers such as Deutsche Telekom, Telefonica and Orange, alongside major content providers.

With its rapid growth, it became clear that its existing network architecture would need to scale in line with demand. As Arnaud Fenioux CTO for HOPUS explains, "We originally built the network on some donated Brocade switches, but it became clear that we need higher density and more 100G ports to keep up with the growing volumes of traffic, so we started looking for a better long-term solution that could offer the scale and economics we needed."

Arnaud and his team began looking at various vendor options. "Arista provided us with a dense modular chassis and an extremely competitive price point and in our testing delivered extremely high performance and low latency."

"But we also felt an affinity with Arista," adds Duguet, "The team at HOPUS are very experienced in the networking industry and Arista are a dynamic company that are doing things differently – we liked that – it is how we feel about our service."

7280R   7500R

HOPUS has deployed Arista 7280R Series fixed configuration switches that combine dynamic and deep buffering for lossless forwarding with high density, internet scale table sizes and comprehensive L2 and L3 features. Available in a broad range of 1RU and 2RU systems with a combination of 40G and 100G systems for Universal Leaf and Spine designs, the 7280R delivers up to 12Tbps of wire speed performance and up to 2 million IPv4 routes with FlexRoute.

Conclusion

Over the last few months, Arnaud and his team have been migrating the legacy Brocade switches onto the new Arista architecture; a process that has proven simple and non-disruptive. "The Arista architecture has deep support for all of the protocols and monitoring capabilities that we need and we are now in the process of integrating this into dashboard interfaces for use by our support teams and members," says Arnaud, "Looking to the future, we are planning to upgrade our edge network to Arista 7500 switches to allow us to benefit from more cost-effective connectivity and the advantage of having a single operating system across our architecture which makes management tasks easier and more efficient."

HOPUS is still growing and today the network carries over 400Gbps at peak times with new members joining monthly. "We are disrupting the transit model," says Duguet, "We believe the Internet should offer quality of service for everybody and not just the big guys like Facebook and Microsoft , but if we want to do that then we all need think about connectivity that is based on a fair model."

With PoPs, Remote L1 WDM and IXPs Gateways across France, Germany, Switzerland and Netherlands, HOPUS is now looking to expand further afield. "The HOPUS concept has proven it can work in a number of European cities and we are now looking to expand to new locations – a journey that we will make together with Arista," Duguet concludes.

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