Appliwave seamlessly upgrades network with Arista to boost performance and reliability while streamlining operations

Highlights

Challenge

An expanded services portfolio and growing demand from customers and partners prompted Appliwave to select Arista for its major network upgrade and migration to VXLAN following extensive performance, reliability, and feature testing.

Solutions

- Arista 7280 for spine / leaf switches for high performance, low latency, and scalability
- Arista 7050 for top of rack and edge deployment offering high value connectivity
- Single Arista EOS (Extensible Operating System) environment to simplify operational management

Results

- Improved performance and reliability with capacity to grow in line with demand
- Open, standards-based API to allow for future SDN and automation requirements
- Minimal learning curve allowing networking teams to transition skill sets without formal training

With a host of new services and growing demand, Appliwave chose Arista for its new core network architecture to overcome capacity and performance issues while simplifying its day-to-day management duties.

APPLIWAVE
opérateur cloud et télécom

Project Background

Appliwave is an operator of cloud and telecommunication services for small and medium-sized enterprises across France. The company specialises in providing hosting and data services, internet access, optical fibre, and internet protocol telephony solutions.

Challenge

The company is part of the Septeo group, a European leader in legal technology, that also uses Appliwave to deliver its Voice-over-IP (VoIP) solution allowing lawyers and notaries to benefit from fixed and mobile convergence, smartphone applications and interactive voice technologies thanks to specific integration with their specialist software tools.

The core network at Appliwave used to deliver its voice and data services had grown organically over several years but with increasing demand, it was starting to run out of bandwidth and faced certain reliability challenges.

As Julien Ohayon, CEO for Appliwave explains, "We recognised that our legacy network was not well suited to our future plans, especially with our growing partner community and expanded portfolio of services including data backup, replication and hosting services."

Appliwave delivers its services through a community of 250 IT services providers connected via a network of 21 points of presence across France and 1 in Frankfurt. Its core network utilises MPLS technology to ensure predictable quality of services. However, this approach was not well suited to its expanding footprint and instead Appliwave decided to move to VXLAN, allowing it to create virtualized Layer 2 subnets that provided more operational flexibility for the provision of its services. The upgrade would also increase the core bandwidth to 100GB, providing additional capacity to meet its future expansion.

Solution

Although Appliwave had traditionally used the same legacy networking vendor for its previous network expansion, it was decided to examine other alternatives that were more suited to its longer-term strategic plans. "We have been part of the FRench Network Operators Group (FRnOG) for a number of years and seen presentations and case studies on the success of Arista for use cases similar to ours," says Olivier SCALA, CTO, "…and this was the spark that prompted us to bring Arista in as part of a proof of concept project."

Following a deep technical evaluation, Arista was selected as the switching technology for Appliwave and a major project to migrate its network was started in April 2020.

Core Appliwave data centres were upgraded to Arista 7500 Series Universal deep buffer switches that utilises a virtual output queue architecture to provide deterministic low latency with no head of line blocking. Latency is predictable as packet sizes increase from a low of 3.5usec (port to port) for 64 bytes to under 9usec for jumbo frames which makes it ideal for handling the mixed workloads across the Appliwave network.

Each Arista 7508R switch has up to 288 x 100G interfaces that fully configured, delivers up to 36Tbps switching capacity with a flexible arrangement of 10/40/100GbE interfaces. The network also utilises Arista 7050s for top of rack switching and network edge use cases.

Conclusion

"One of the most important capabilities is the seamless nature of the Arista architecture and its programmability," explains Julien Ohayon, CEO," All of the switches use the same operating systems and have accessibility through a common API which simplifies our management duties and provides us with the opportunity to build automation capabilities into our network as we need."

The native support for VXLAN and ability to encapsulate MPLS traffic within it, has allowed Appliwave to transition all of its customers onto a more efficient network architecture without any downtime or need to change customer premise equipment.

"This has been an incredibly successfully project for us," says Adrien Breton, Infrastructure Manager. "We have eliminated bottlenecks in our network, increased reliability and now have a viable path to grow and adapt the network to meet the strategic direction of the business," Olivier SCALA, concludes.

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