CDLAN selects Arista for major network upgrade to support sustained growth and improved operational efficiency.

Highlights

Challenge

The rapid expansion of CDLAN was curtailed by the limitations of its legacy network architecture that prompted it to upgrade to a flexible L3 topology essential to support growth, reliability and improved operational processes.

Solutions

- Flexible L3 topology to enable new services including EVPN MPLS and Segment Routing
- Topology Independent Loop Free Alternate (TI-LFA) design to dramatically improve recovery performances to under 50msec
- Arista 7280 Series with single Arista EOS software and binary image simplifying network administration

Results

- Improvement in operational efficiency for networking teams through a simplified network architecture
- Ability to easily scale performance in line with growing customer demand
- Open architecture provided extensive network telemetry to enable automation capabilities for streamlined operations

CDLAN is one of Italy's fastest growing telecommunication service providers. Yet with its rapid rise, its network infrastructure was starting to reach capacity – an issue that could impact its reputation for exceptional customer service. This prompted CDLAN to select Arista to deliver a major network upgrade, to not only deliver increased capacity and reliability, but to also enable new services - including automation - to streamline its day-to-day operational procedures.

CDLAN

Project Background

Founded in Milan, Italy, in 2000, CDLAN has grown rapidly from an IT consultant company to become a national telecommunications operator. Its services include access solutions on fiber optic, wireless (W-iFi and Hiperlan) and copper (xDSL), housing and hosting services, IP telephony and messaging. In 2016 it opened Caldera21® (currently called C21), the first Tier IV compliant data center in the Caldera campus in Milan, home to the Milan Internet Exchange (MIX) and a peering point with more than 200 network operators. CDLAN's expansion has continued, including building another major data center in Rome, known as E100. Today, it serves hundreds of enterprise customers.

Challenge

As Mr. Corrado Del Po, Chief Executive Officer for CDLAN explains, "During the last three years we have grown quickly by acquiring big customers that chose CDLAN for our connectivity and data center services. This rapid growth was a great opportunity for us, but it started to exploit some weaknesses of our network infrastructure."

Mr. Del Po disclosed that the organic growth of CDLAN's network included technology that was starting to reach the limits of its capacity and began experiencing stability problems that gradually became more frequent and impacted the overall customers' quality of experience. "This is not acceptable," he says, "So in 2020, despite the challenges of the pandemic, we decided it was time to completely rebuild our network. The key goals for the project were network transformation for scaling capacity on-demand, simplifying operations and delivering superior quality of experience. That was when we started to look at a number of networking vendors that could offer a longer-term strategic partnership to match our continued expansion."

CDLAN's CTO Mr Salvatore Sciacco, together with his team, evaluated several potential solutions. One of the key considerations was to move away from the legacy solutions based with big routers and proprietary technologies and instead, move to a more L3-driven, modern and open approach. Another requirement was to update its L2 based network to a true L3 topology that would allow it more flexibility around service delivery and, crucially, allow simpler moves, adds and changes for individual clients without impacting any other client on the same network segment.

Solution

"We examined a number of potential vendors, however it became clear very quickly that Arista not only had a technical solution that exceeded our needs but also a vision and strategy that complemented the future direction of CDLAN," explains Mr. Sciacco.

"We wanted to build an automated network that reduces protocol complexity, be customizable and scale out meeting future growth demand. Further, it will modernize operations with the ability to have deep observability with real time telemetry to collect, analyze and respond to events."

To meet these goals, CDLAN deployed Arista 7280R2 Series fixed configuration platforms that supported a flexible arrangement of 10/25/40/100GbE ports, internet scale table sizes and comprehensive L2 and L3 features. Available in a broad range of 1RU and 2RU systems for provider edge and core designs, the 7280R2 delivers up to 1.8 Tbps of wire speed performance to CDLAN and up to 2 million IPv4 routes with FlexRoute.

To meet their goal of simplification, the team wanted the flexibility to deliver Layer-2 and Layer-3 VPN services whilst providing resiliency and the ability to scale. Standards based EVPN is ideal as it provides an efficient, unified stack for multiple services, including VPNs and can also be used in the data center.A fresh approach to core network design with Segment Routing also simplified the end-to-end service delivery while achieving high availability goals.

At an operational level, the use of Arista EOS® across its entire switch family provided a rich programmable stack, real time state streaming and API consistency. This reduced management complexity. The decision to move to Arista also unlocked the door to take advantage of EOS extensibility features within the platform, offering more visibility over traffic flow, as well as network state for proactive capacity planning measures.

Benefits

The new network design not only solves the stability issues by providing enough capacity to support continued growth and transform the routing paradigm thanks to Segment Routing, it also allows CDLAN to deliver superior customer experience relying on cutting edge EVPN MPLS technology for delivering services.

Updating the network to a true L3 topology has allowed CDLAN to be more flexible around service design and delivery. Crucially, the upgrade has allowed them to deploy individual clients' services using simpler moves, adds and changes without impacting any other clients on the same network segment.

Yet the change has also dramatically improved its operational processes. "Arista has helped us deploy a new service provisioning paradigm by decoupling the underlay transport facility from the overlay service layer," explains Mr. Sciacco. "The underlay is now fully based on state-of-the-art loop free L3 technologies, providing reachability to our service plan. Therefore, to provision, troubleshoot and manage our end customer services, we just need to activate them on the edge devices without touching the core."

CDLAN has also used the Arista technology to deploy a Topology Independent Loop Free Alternate (TI-LFA) design that has dramatically improved recovery performances to under 50msec in the event of a link failure to deliver the service quality experience its customers expect.

Mr. Sciacco also believes that their goal of building a true, strategic partnership has been met, "Arista Networks has always been very proactive to address our requirements," he says, "They have constantly supported us from the Proof-of-Concept phase to the final delivery of our new core infrastructure. Overall, Arista Networks spent a lot of time working with us to get the most out of the technology to make the improvements that deliver benefits to our customers."

"Last but not least, we were also impressed by Arista TAC when it was involved in troubleshooting some issues that were solved very quickly. We can say the deployment and the migration phases went much better than what we expected based on our past experiences".

Looking to the future, CDLAN is now preparing to upgrade its data center network infrastructure based on Arista Networks' 7050X3 devices using EVPN VXLAN service delivery technology. In addition, the team is exploring new ways to manage service deployment coupled with the automation and the real time visibility provided by Arista CloudVision®. "This approach has already shown a positive impact in reducing the time needed for day-by-day operations and we are now exploring more automation elements to meet our long-term strategic goals," Mr. Sciacco concluded.

Santa Clara—Corporate Headquarters
5453 Great America Parkway,
Santa Clara, CA 95054

Phone: +1-408-547-5500
Fax: +1-408-538-8920
Email: info@arista.com

Ireland—International Headquarters
3130 Atlantic Avenue
Westpark Business Campus
Shannon, Co. Clare
Ireland

Vancouver—R&D Office
9200 Glenlyon Pkwy, Unit 300
Burnaby, British Columbia
Canada V5J 5J8

San Francisco—R&D and Sales Office 1390
Market Street, Suite 800
San Francisco, CA 94102

India—R&D Office
Global Tech Park, Tower A & B, 11th Floor
Marathahalli Outer Ring Road
Devarabeesanahalli Village, Varthur Hobli
Bangalore, India 560103

Singapore—APAC Administrative Office
9 Temasek Boulevard
#29-01, Suntec Tower Two
Singapore 038989

Nashua—R&D Office
10 Tara Boulevard
Nashua, NH 03062