

RAI - Radiotelevisione Italiana selects Arista Networks for major Avid virtualization project to deliver enhanced reliability, security, and remote production flexibility

Highlights

Challenge

As part of its move to a highly virtualized and private cloud-based production environment, Rai - Radiotelevisione Italiana upgraded its legacy network with an Avid certified solution from Arista using a spine and leaf-based design, offering enhanced performance, reliability and scale while supporting open standards.

Solution

- Arista 7000 Series spine and leaf switches for high performance, low latency, and scale
- Avid certified networking platform to ensure highest levels of reliability
- CloudVision® software delivering single view of the entire network for simplified management and automation

Results

- Improved network and Avid application performance, reliability, and scalability
- Proven path to 400G through consistent roadmap
- Consistent Extensible Operating Systems across entire network simplifies management tasks
- Open standards-based approach to simplify support, upgrades, and automation

Italy's largest broadcaster, RAI - Radiotelevisione Italiana (Rai), moved to a virtualized Avid production system to deliver more reliability, flexibility, and significant energy reduction. To meet these goals, Rai selected Arista to successfully deliver a modern spine and leaf network architecture able to meet the exacting requirements of the Avid platform while helping Rai's longer-term transition to private cloud.



Company Background

Rai is the national public service media company of Italy. Rai broadcasts 13 TV channels and 13 radio channels across all digital platforms with a free offering of entertainment, factual media and news, differing by genre and target. News is provided both nationwide and regionally and Rai's international presence is one of the most widespread in Europe, with 11 international bureaus across the world.

Challenge

Rai has been a major Avid customer for over 10 years using Avid editing, newsroom and asset management systems to create, deliver and distribute content across Rai's major network channels. As the Rai investment in Avid technology across its extensive production environment has grown, so has the amount of physical equipment it needs to manage. Today, Rai runs over 200 physical servers and, as part of its desire to reduce its data center footprint as well as increase flexibility for remote working, Rai is undergoing a multi-year project to move to a virtualized Avid architecture for its integrated production system.

The initial phase of the virtualization project is focused on its national news production systems serving millions of viewers on-air and online across five Rai channels: Rai1, Rai2, Rai3, Rai Parlamento, and Rai's 24-hour news channel, Rai News 24. The transition will reduce its current 200+ server estate down to just 28 virtualization hosts which, alongside improvements in reliability and security, will help Rai to meet its sustainability ethos by reducing energy consumption for its IT estate by around 60%.

Antonino Garaio, Head of News System Engineering for Rai explains, "We are effectively creating a hyper converged architecture and building a private cloud in Rai data centers that will not only serve our needs today, but also help us in the future to evaluate potential migration or scalability towards a mix of private and public cloud."

However, Rai's legacy network architecture, operating as a three-tier design with links of between 1 and 10 Gbps, did not provide the performance needed for its virtualization and private cloud strategy. This limitation prompted Rai to look at various options to upgrade the core network. In the past, to ensure reliability, Rai only deployed networking equipment across its extensive infrastructure that had been formally certified by Avid, but this only included a limited number of networking suppliers.

"That changed last year when Avid began certifying additional network vendors", explains Alessandro Sciallo, Rai Project Manager responsible for managing the deployment of the virtualized environment. "This gave us the opportunity to create a broader public tender and consider other options for the upgraded network layer needed to deliver this project".

Solution

Rai is a public service media company, and the tender was developed through a technical specification with very stringent requirements due to the needs of the Avid application layers. “We looked at and tested several options and we were very impressed with the Arista proposal,” explains Lorenzo Annibali, Head of IP Network Engineering. “Arista met and often exceeded all the requirements stated within the technical specification. The design underpins each virtualized cluster with a simple but effective spine and leaf topology, capable of delivering all the throughput required by the application.”

“Arista also fits successfully into an enterprise context where other established network technologies are present. Its support for open standards and the IS-IS protocol unlocks more potential to explore a wider range of technology options as we move forward,” Lorenzo Annibali adds.

Rai has worked extensively with a team from Arista on the first phase of the project at its main campus in Saxa Rubra, Rome, and over the next year will transition the legacy network to the new Arista architecture.

The project has implemented a spine and leaf, layer 3 network using highly resilient 7260X3 Series fixed configuration switches. These offer a flexible arrangement of 10/25/40/100GbE ports with up to 12 terabits per second throughput and Ultra-deep packet buffer. The network leaf layer uses mostly 7050X3 Series switches, offering an ultra-low latency 1RU platform to serve different requirements around 10G, 25G and 100G connectivity. All Arista 7000 series products run the same Arista EOS software and binary image, simplifying network administration with a single standard across all switches.



Conclusion

“Rai is a public service media company focused on the adoption of open standards. Thanks to the introduction of Arista technology, we have been able to complete the new virtualized architecture which has been successfully integrated with what already existed in our production infrastructure. We are steadily moving towards a full IP environment” explains Ubaldo Toni, Technology Director.

“The new network architecture also has the potential help in the future transition of baseband signaling to video-over-IP which is a fundamental part of our longer-term strategy.”

“Arista has been supportive during this project, and we look forward to working with the team as we transition more of our production infrastructure towards virtualization and embrace the benefits of private cloud,” Antonino Garaio concludes.



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