

Arista supports Rai Way's network transformation to enhance reliability and performance



As the largest operator of network infrastructure and services for broadcasters, telecommunications operators, private companies, and public administrations, 26 million households across Italy rely on Rai Way to deliver constant access to vital information, media and entertainment.

Rai Way manages radio link networks, fibre optics, broadcasting towers and satellite networks with more than 2,300 sites across Italy, guaranteeing the transmission of television and radio content, across the country and abroad.

In 2021, to improve the availability of these national services, Rai Way started a digital transformation project using technology from Arista Networks to upgrade the underlying network that underpins its critical infrastructure.

As Matteo Neri, Co-founder of Vista Technology Spa – the Arista Networks' partner and system integrator for the project explains, "The core project upgraded Rai Way from SDI to IP to aid in the adoption of global standards for digital television for high-definition streaming. By using a dual homed network with independent hardware from multiple suppliers along with a software defined control layer, Rai Way can mitigate any critical bugs that were previously a cause for concern when it was using a single legacy vendor."

"The Arista solution is proven and well established within the media and entertainment sector with successful deployments at major broadcasters across Europe," explains Thomas Gunkel, Market Director Broadcast for Skyline Communications, the system integrator that implemented DataMiner's software defined, orchestration tools used across the project. "it delivers high performance and scalable capacity while supporting open standards that works well with SDN platforms such as DataMiner"

The DataMiner orchestration and SDN controller operates end to end, controlling edge gateway functions including IP MC routing, NAT, and firewall security automation across both the new Arista network equipment and Rai Way's multiple legacy networking vendors.

Rai Way's new IP video and audio contribution and distribution network includes transformation to IP video transport and switching over a quadruple redundant network for optimum reliability, supporting both compressed and uncompressed SMPTE ST-2110 and ST-2022-6/7 signals. Services are cross-connected and routed in multiple ways by Rai Way operators, using DataMiner's orchestration software.

The project implements a spine and leaf, layer 3 network using highly resilient Arista 7280R 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 buffers. All Arista 7000 series products run the same Arista EOS software and binary image simplifying network administration with a single standard across all switches.

The solution manages multiple kinds of media services over a single converged network including uncompressed SMPTE ST 2022 and SMPTE ST 2110 contribution feeds from remote studios and content suppliers, distribution IP flows (MPEG-TS) to DTT regional and national headends and towers with instant routing of media to multi-viewers and other use cases. The network uses an interconnected spine-leaf design where different vendors supply hardware and connectivity paths to improve resiliency and service continuity.

"Working as a team, including experts from Arista Networks, DataMiner, Vista Technology, Skyline Communications and other technology partners, we are delighted to contribute to this transformational project that highlights the importance of an open standards approach within a flexible, multi-vendor design where we all share the common goal of delivering the best possible infrastructure to meet the needs of Rai Way," explains Davide Bassani, System Engineer

