3zero2 selects Arista Networks to deliver high performance, reliable and scalable SDI over IP Media network

Highlights

Challenge

3zero2 provides all the services that make up the entire audio-visual production chain. However, in an era where the rationalization of technological infrastructures converges towards virtualization and the cloud, the next frontier for 3zero2 is the conversion of its legacy broadcast systems. The heart of the transition project requires the new IP media network to deliver uncompressed video transport with the highest levels of stability, with lowest possible latency and jitter while supporting the precise timing system needed to synchronize all connected devices.

Solutions

* Arista 7000 Series spine and leaf switches for high performance, low latency, and scale

* CloudVision software delivering single view of the entire network for simplified management

Results

* High performance IP-based media network delivering mission critical reliability

* Open standards-based approach to simplify support, upgrades, and automation

* Full support for evolving broadcast IP standards including SMPTE 2110 to ensure future upgrades

3zero2, a Euro Media Group company, is one of Milan's most well-known media services providers and has continually expanded its portfolio to deliver traditional productions alongside a growing range of streaming and VoD services. To meet the scale and flexibility needed for a modern media workflow, 3zero2 chose Arista Networks as the core of a new spine and leaf architecture to power an IP-based media network and to link its main production facility to remote data centres and key internet exchanges. The successful project has improved performance, reliability and resiliency and provided the flexibility 3zero2 needs to deliver innovative new services and prepare for a more virtualised and cloud-based future.

Euro Media Group (EMG) SAS was created in 2007 by the merger of UBF Media Group, a Dutch company founded in 1982 and Euro Media Télévision, a French company founded in 1983. With presence in seven countries (France, Belgium, Germany, Netherlands, United Kingdom, Switzerland, and Italy), Euro Media Group is a trustful leader in European audio-visual technical services. Euro Media Group has since developed as a renowned facility specialist and offers expertise and experience in project managing, long range wireless, specialty systems, playouts and more recent entire IP configurations. The company has always supported broadcasters in that unique search to create flawless reliability.

Project Background

Milan based 3zero2 is a strategic partner for media producers, television broadcasters and brands interested in the design, creation, and distribution of audio-visual products. Programs and content from its portfolio are broadcast on a wide range of channels of the major italian broadcasters and include popular entertainment formats in prime time, films, documentaries, and branded content.

In terms of outside broadcasting, 3zero2 provides mobile vehicles that are regularly engaged in the coverage of sporting events such as the Serie A championship and the Europa League, and on musical events, such as the Pooh Concert at San Siro, the Violetta Concert, the European and Junior Song Contest, and the TRL Awards for MTV. To complete its services portfolio, 3zero2 also delivers live streaming, VOD applications and platforms for both mobile and social media use cases across a growing range of sport and entertainment brands.

Challenge

3zero2 provides all the services that make up the entire audio-visual production chain. Its main production facility in Cologno Monzese (Milan) has more than 1000 sq/m of studios along with 6 audio post production rooms, 25 video and graphics post production rooms and a playout center that delivers around 30 channels.

The service provider has invested heavily in creative talent and technology to deliver its extensive portfolio. However, in an era where the rationalization of technological infrastructures inevitably converges towards virtualization and the Cloud, the next frontier for 3zero2 is the conversion of its legacy broadcast systems that are highly dependent on real-time performance that typically do not lend themselves to being used with shared hardware resources.

As Luca Bertoldi, Head of IT for 3zero2, explains "Like many other service providers, we are exploring cloud opportunities as this is where the market is heading. Our first step on this path was a major project to transform our existing infrastructure from traditional SDI cables and routers into a system based on TCP/IP networks using mostly commodity IT products."

The 3Zero2 production facility transports uncompressed video signals via SDI Broadcast systems such as routers and video distributors. The heart of the transition project would require the new IP media network to deliver uncompressed video transport with the highest levels of stability, with lowest possible latency and jitter while supporting the precise timing system needed to synchronize all connected devices.

Solution

3zero2 examined several possible solutions before selecting Arista Networks. "In addition to the very high hardware specifications of the Arista switches, a great advantage of its approach is the ability to monitor Multicast video streams and the status of connections over time and in detail," says Luca Bertoldi. "Thanks to Arista CloudVision® it is possible, even for personnel not necessarily expert in network infrastructures, to have an overview of the situation quickly and intuitively."

The project created a new spine and leaf network architecture based on Arista 7000 series switches. Luca Bertoldi and his team deployed Arista 7280R switch series as spines to create and deliver dedicated SDI over IP workflows. This network was based on a 100Gbps design with 400Gbps interconnects. In addition, 3zero2 expanded its infrastructure by connecting its network via two dark fibres to create a 100Gbps link to CDLAN, an internet service provider and hosting provider in nearby Caldera to deliver network connectivity between its co-located data centre suites and its main production facility in Milan.

Conclusion

As one of the most significant infrastructure upgrades ever undertaken by 3zero2, Luca Bertoldi judges the project a major success, "Arista allowed us to reduce the hardware footprint and to massively simplify cabling by replacing hundreds of SDI cables with 100Gb fibre connections. Furthermore, the SDI transport does not require video distributors and allows the build of an exceptionally reliable infrastructure more easily".

Although the new network has helped to streamline its infrastructure and allow it to more easily take advantage of a software centric architecture, flexibility is also critical. "Another very important factor is the speed with which the system can be reconfigured or scaled to meet last-minute business needs," explains Bertoldi. "In fact, in most cases it is sufficient to change the configuration of the equipment involved without having to lay SDI cables or add equipment as what would normally happen in classic SDI infrastructures."

The transition from SDI to an IP network has also proven invaluable in other ways. "Thanks to this new connection we have been able to develop a disaster recovery solution and to gain a privileged access to all the ISPs present at Milan Internet Exchange (MIX) which is one of the main internet hubs in Europe," says Luca Bertoldi. "With the new Arista infrastructure, we are able to easily increase connectivity to the internet and connect directly to the networks of other companies present at the MIX."

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