Company name:
EMG

Industry:
Broadcasting

Company website:
euromediagroup.com

Geographic region:
Hilversum,
the Netherlands

How NETGEAR Pro AV Switches help EMG's innovative IP broadcast solution captivate audiences worldwide

INTRODUCTION
Behind the scenes of some of the world's most important international events and greatest sporting moments is EMG, a leading provider of broadcast and AV services. Through its pioneering IP-based solution, EMG is delivering unprecedented scalability, flexibility, and efficiency to its broadcast clients, helping to give their audiences a captivating viewing experience. Playing a critical role in supporting this ground-breaking IP way to deliver excellent broadcast are M4300 Pro AV network switches from NETGEAR.

ABOUT EMG WORLDWIDE
For over 30 years, EMG has provided technology for events including the Tour de France, Ryder Cup, FIFA World Cup, Formula One, Eurovision, MTV Awards, BAFTA Awards, Royal events, The Voice, Masterchef, and the X-Factor. Present in 10 countries, EMG is a one-stop shop to address any type of production, with a diverse range of studios and one of Europe's largest fleets of mobile trucks. Its award-winning team continually seeks innovative ways to service its clients, including exploring the latest technology enhancements.

For instance, in 2017, EMG developed a new IP broadcast concept called diPloy: a redundant IP workflow that combines audio, video, intercom, monitoring, and control data by using just one integrated mesh network based on a variety of AV over IP standards. Dozens of OB Units have been divided into modules, each with its own function, such as audio, comms, or replay.

The advantages are multiple, including being future-proof to support modern formats like 1080P, UHD and HDR, plus a far more lightweight set-up, simplified connectivity, and unprecedented scalability and flexibility. Modules can be added or replaced as needed, and their selection customized for the specific needs of each event, connected anywhere, whether in a mobile OB truck, cabin, or permanent control room.

"We can easily change modules without having to rebuild an OB truck or other broadcast infrastructure," explains Paul van den Heuvel

CTO for EMG The Netherlands. "And instead of sending OB trucks worldwide, we can just air-freight the equipment to where it is needed." This also contributes to EMG's sustainability goals, and since everything is IP-based, remote broadcast team members can participate without having to be on-site.

A further consideration within diPloy's design has been to ensure that the new technology is hidden and at least as reliable as the SDI world, with the new technology being as unobtrusive as possible. "The creatives – such as the directors and the camera people – should not be able to tell if the system is SDI or IP based: it should just work," explains Paul.

THE CHALLENGE

A case in point is the choice of network switches, connecting all the different elements and team members. In IP-based broadcast environments, especially live events, the network switch backbone must ensure the smooth running of operations, including seamless delivery of sound and vision to viewers. Switches also need to fit the particular requirements of AV.

Initially, EMG selected large-form switches from a well-known vendor, but these had some limitations for this particular use, not least of which was taking up too much space. "As you can imagine, an OB truck or cabin is a pretty compact environment," explains Harm van Houten, IT Architect, EMG, who has also been closely involved in diPloy's development and roll-out.

"Also, the switches created humming noise. So, we needed to find a smaller and quieter product for this project, and we wanted one that could also be managed." Compared to their unmanaged counterparts, managed switches provide greater control, visibility, and customization over how data travels over a network.

The team carried out extensive research and eventually found the M4300 series from NETGEAR, which, when they compared its features with other potential candidates, came out as the best. However, since the EMG team was not familiar with NETGEAR's Pro AV equipment, they were initially a little skeptical but, as Harm says, "The switches were not that expensive, so we ordered just a couple to see how they worked out, and we were pleasantly surprised by the results."

SOLUTION

The M4300 series of network switches are part of the NETGEAR AV Line and have been created specifically for Pro AV users, for instance, supporting all the main AV protocols and standards. Ready to be installed out-of-the-box, they are also highly customizable. A sleek chassis displays status information on the front, and all connections are hidden from view at the back

(though reverse rack and multiple other mounting options are possible).

For EMG, the flexibility and density of the switch's ports have proved a major bonus. "We've got eight ports on Ethernet and eight on fiber, giving us many options. Also, we can do most things we need to on a single switch, so this is a really converged solution for us," says Harm.

Adds Paul, "With the NETGEAR switches, you have all the functionality and performance we need when compared to larger switches, but in a compact design, giving us more efficient use of space, which is always at a premium in broadcast, especially in a truck." Furthermore, the M4300 series has met the vital requirement of being silent.

RESULTS

Since being deployed, the hundreds of NETGEAR switches have played a robustly dependable role in diPloy, though knowing that the NETGEAR Pro AV Support team is always available is essential to EMG. That said, as Paul says, "The fact that we do not need to call NETGEAR for technical support much shows the reliability of the switches."

"On the other hand, it is important for us to collaborate closely with NETGEAR on product design." In practice, this has meant EMG has played an important contribution to the evolution of the Pro AV Line, making suggestions for enhancements that benefit other users worldwide.

Today, EMG's innovative deployment strategy continues to go from strength to strength, supporting even more clients' events worldwide, backed by the organization's outstanding market experience and in-house expertise. However, the team is not resting on its laurels. As Paul says, "We're not done yet – we are constantly trying to push the boundaries of what the system can do." Concludes Harm, "The switches play an integral role in that environment: NETGEAR had the solution we needed, and now we use hundreds of the M4300s."