GLOBAL MEDIA TECHNOLOGY COMPANY DELIVERS HIGH-QUALITY TV AND VIDEO SERVICES WITH IP

Summary

Company:
NEP The Netherlands

Industry:
Media and Entertainment, Technology

Business Challenges:
- *Build a content delivery network (CDN) to scale out the delivery of high-quality TV and video content*
- *Transform production systems and workflows from a traditional broadcast environment to cloud-based IP platforms*
- *Maintain the highest levels of broadcast quality and reliability*

Technology Solution:
- *QFX5100 line of switches*
- *T4000 Core Router and T1600 Core Router*

Business Results:
- *Created the world's first IP multi-camera production platform for TV, with more flexibility, efficiency, and best quality*
- *Supported more than 500 productions and delivered peak time TV viewing for millions of people in one year*
- *Extended and further developed its CDN network*

NEP is a global media technology company, providing technology, talent, and know-how that enable its clients to produce the world's biggest events, from the Oscars to the Olympic Games. NEP's clients include many of the world's premier television broadcasters, cable networks, and event producers who demand high-quality solutions such as remote production, studio production, video display, host broadcasting, post production, playout, and uplink communication. NEP has offices around the world in Australia, Belgium, Canada, Denmark, Finland, Germany, Ireland, the Netherlands, Norway, Sweden, Switzerland, the United Arab Emirates, the United Kingdom, and the United States.

NEP The Netherlands delivers some of the group's most advanced services and solutions, operating across every stage of the production cycle, from "glass-to-glass" (meaning from the camera lens to the viewing device), providing capture facilities, studios, a cloud-based editing environment, live cloud production galleries, video compression, and playout facilities.

As Gerbrand de Ridder, who is head of Research and Development and lead system architect at NEP The Netherlands, explains, "The IT environment is evolving quickly for broadcasters, so we need to help our clients keep ahead of the technology curve. In particular, viewers in the Netherlands expect the highest quality TV, which means that broadcasters and content makers need to access the same quality of cameras, studios, and production facilities as those in the largest markets but with less production budgets. We can provide them with a full range of managed solutions, from capturing video and managing the content to distributing it, making it economically viable for our clients to access the best technology and produce content in the best quality."

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- Gerbrand de Ridder, Head of R&D and Lead system Architect, NEP The Netherlands

Business Challenge

NEP The Netherlands (NEP) has evolved from a broadcasting company that uses IT into an IT company that is an expert in broadcasting. It has expanded beyond camera and editing functions into playout and distribution. NEP already had a content delivery network (CDN) since 2010. The company has worked to extend and develop its CDN network further to scale out the delivery of high-quality TV and VOD content in the Netherlands, including Dutch premier league football.

Moreover, within its TV production environment, NEP needed to find a technology vendor able to transform its systems from its traditional broadcast SDI environment to IP, while maintaining the highest levels of broadcast quality.

"We needed technology that would be cost-effective to operate, but above all we needed to meet the extreme demands of the broadcast environment, which must process massive amounts of uncompressed data with zero tolerance for latency or delays. Moving to IP meant we had to embrace the same category of equipment that delivers Web and e-mail data, but we needed to be able to produce and deliver TV with absolutely no delays or glitches," De Ridder says.

Technology Solution

NEP selected Juniper Networks as its technology partner, realizing that Juniper's service provider DNA was the ideal starting point for its transformation from an SDI to IP-based infrastructure. "We are very selective in our partnerships," De Ridder says. "We were looking for a high level of innovation, like we have in our own business, and not just for the current generation of technology but beyond that. And we needed to find a vendor who was open and accessible to the discussions that matter to us. We have a lot of experience in the broadcast industry, which we could translate into the features we needed. Juniper understood this, committed to it, and delivered it—providing us with specific features we needed, such as Precision Time Protocol (PTP) clocking. They worked with us to find the most cost-effective ways to migrate our systems over the whole lifetime of the project."

To build its CDN, NEP used Juniper Networks® T4000 Core Router and T1600 Core Router, each with 10GbE and 100GbE interfaces, to create an optical core over its own fiber, distributed across three privately owned data centers to provide redundancy.

The pre- and post-production environments run in a cloud environment created by using Juniper Networks QFX5100 line of switches. QFX Series Switches are high-performance, high-density platforms that are designed for top-of-rack, end-of-row, and spine-and-core aggregation deployments in modern data centers. The production environment needs to support applications that move hundreds of gigabits of uncompressed video. For example, a simple studio arrangement will send 80 Gbps of traffic to the data center, with multi-view monitors requiring 150 Gbps.

As De Ridder explains, "Juniper's portfolio allowed us to standardize with a single vendor, from security to backbone to campus, so now we can do everything with one vendor and a common set of operating procedures—but still remain fully open given Juniper's long-standing commitment to third-party APIs and virtualized network functions (VNFs)."

"Working with Juniper enabled us to transform our business from SDI to IP, which has meant more flexibility, faster delivery, and lower costs for us and our clients. Juniper understood this early on and worked with us to achieve it."

- Gerbrand de Ridder, Head of R&D and Lead system Architect, NEP The Netherlands

Business Results

NEP began its transformation to an IP-based broadcast environment and built the world's first IP multi-camera production platform. Since then, it has created more than 750 productions and delivered peak time TV viewing for millions of people. The CDN has 700 gigabits of streaming capacity and provides services for broadcasters and content owners such as FOX Sports, NPO, and RTL Videoland. "Working with Juniper enabled us to transform our business from SDI to IP," De Ridder says, "which has meant more flexibility, faster delivery, and lower costs for us and our clients. Juniper understood this early on and worked with us to achieve it."

The Netherlands is known for its advanced television services, facilitated by most homes having very high-speed network connections of 100 Mbps or more. The country also has a reputation for creating innovative TV formats such as Talpa's *The Voice* and Endemol's *Big Brother* show. Juniper's technology has allowed NEP to continue this tradition, as it delivers a new generation of TV services including VOD services at 4K with ultra-high-definition, creates more interactive online experiences with up to nine split screens, and even provides 360-degree virtual reality viewing for one of its client's reality TV shows.

Next Steps

NEP plans to expand its capabilities further, adding two more studios, four extra cloud production galleries, 30 playout channels, and live 4K over-the-top (OTT) delivery from sports venues.

"TV technology transitions are moving faster and faster, so adaptability is critical for us. Soon all TV and video broadcast applications will run over standard open systems like those from Juniper," De Ridder says. "Now, we can easily upgrade from HD to 4K to 8K, and have all these formats work alongside each other, simply by adding more capacity, or a new compression algorithm, rather than having to rip and replace everything. This is the beauty of delivering broadcast quality systems over IP."

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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