Integration of Cutting-Edge Media Services Delivered Through an Open IP Infrastructure

Canoeing has a long, storied heritage for the people of Soca Valley in Solkan, Slovenia. Whether used for enterprise, entertainment, transportation or even basic day-to-day survival the Soca River has long been an integral piece in the lives of the local people. It is no wonder that canoeing and kayaking have remained the most widely practiced water sports in Slovenia.

Today the Canoe Center on the Soca River offers an adrenaline pumping course which attracts close to 30,000 visitors a year, including several national teams that use the facility as a training camp for wild water kayaking and canoeing competitions. In order to comply with modern racing standards and to attract prestigious International Canoe Federation (ICF) competitions, the Center made the decision to update their various network nodes and deploy an open IP-based network infrastructure that would allow for the delivery of video surveillance, video-on-demand, timing, public broadband internet access, flood lighting management, perimeter access control and intrusion prevention across the same platform. With the goal being to not only attract the best teams and ICF competitions, but to also offer video analysis and timing capabilities to anyone who utilizes the course.

Constructing a system that is fully exposed to a host of environmental risks and is also spread across a wide geographic area offers a unique set of challenges on its own. Furthermore, video coverage of activities held on rushing water represent one of the most demanding performance combinations for video surveillance there is, because both the competitor and the background are in constant motion. Because of this, the Canoe Center turned to AGM, a local provider of security and surveillance solutions, for a reliable, cost-effective solution that could withstand the outdoor environmental variables while still providing rich high-definition video footage.

The Project:

AGM NOVA GORICA d.o.o. is a Slovenian system integrator specializing in enhanced security solutions with an extensive experience in technologies integration and signal transmission. Their project kicked off with the installation of the fiber optic infrastructure which would serve as an aggregating path for the various signals and communications that would be transmitting as part of the overall event system. After an initial installation utilizing non-PoE, office-grade components proved to be too vulnerable to the elements, AGM began the search for a more robust solution that utilized Power-over-Ethernet (PoE).

“Transition’s hardened 4 port PoE switches addressed all of our pain points as an installer and offered our end-user piece of mind with their no questions asked lifetime warranty offering.”

Andrej Grobisa, Director, AGM Nova Gorica d.o.o.
Outdoor Surveillance/Service Delivery over IP
Solkan Canoe Center, Slovenia

SISTP1040-242-LRT

Industry
Sports & Recreation

Application
Integrated Rich Media Services over IP
• Video Surveillance
• Video-on-Demand
• Timing
• Public Wireless Internet Access
• Flood Lighting Management
• Access Control
• Intrusion Prevention

Business Challenge
Support multiple applications and technologies in an outdoor environment while centrally managing the system from the head-end.

Solution
By linking multiple technologies over an open IP-based network, the Canoe Center is able to assure operational interactivity between unique applications while providing a cutting-edge service delivery platform. The SISTP1040-242-LRT’s (4) 10/100/1000 PoE RJ-45 ports delivered power and data to each of the outdoor cameras, while providing an extended operating temperature (-40°C to 75°C) and hardened exterior.

Benefits
• Central monitoring and management created
• All-over-IP concept successfully implemented
• Harmonized policies and procedures empowered over the whole system
• Enhanced multi-layered network able to deliver services over different channels
• Enhanced user experience for all skill levels

Some of the criteria that needed to be met for switch selection included:
• Extremely reliable under all weather conditions (-10°C to 40°C)
• Offer power supply redundancy
• Must support Gigabit speeds
• Offer a small footprint for installation inside an enclosure
• Ability to electrically isolate itself from the rest of the network equipment via redundant optical fiber uplinks
• Plug-and-Play solution that would need little maintenance

With the European Championships looming, AGM standardized on the ruggedized PoE switches from Transition Networks (pn: SISTP1040-244-LRT) to build-out a Gigabit network for providing Layer 2 networking and connectivity while limiting the environmental impacts of heat, moisture, cold, lightning and dust on the overall system. “Having the overall Gigabit network is so imperative for providing a fluid recording of video streams,” said Andrej Grobisa, director at AGM. “HD cameras can produce streams of up to 12Mbps each and we have 9 or 10 cameras canvassing the course, so Gigabit was definitely a must. Transition’s hardened 4 port PoE switches addressed all of our pain points as an installer and offered our end-user piece of mind with their no questions asked lifetime warranty offering.”

Rounding out the installation, Cisco’s wireless networking gear was implemented to provide rich media transmission to the coaches alongside the course and to provide internet access to the visitors of the Canoe Center. And after another careful analysis, Avigilon was selected for the video coverage of the actual sporting events, while Indigovision’s video system is being dedicated strictly to the overall security and surveillance of the facility. Behind the scenes, all servers and storage was provided by a combination of Dell, Intel, and IBM.

Next steps for the Canoe Center’s ongoing improvement will include:
• The development and integration of an RFID chip timing system – for timing, traffic regulation, and asset management
• Integration of more new systems and applications for successful event management
• The development and integration of systems for monitoring training and research
• Expansion of the current IP system to the new Adventure Park on the other side of the river
Outdoor Surveillance/Service Delivery over IP
Solkan Canoe Center, Slovenia

Technology Overview

Video Surveillance
- Sanyo
- Avigilon
- Grandstream
- Indigovision

Networking Equipment
- Transition Networks
- Cisco

IT Equipment
- Dell
- IBM
- Intel

Other Subsystems
- Siemens – Intruder Alarm, Access Control
- Siteco – Flood-Lighting
- Illumina – Lighting Management System
- ALGE – Sports Event Timing System
- APC – Uninterruptable Power Supply

About AGM Nova Gorica d.o.o.

AGM offers a high degree of expertise and a long history of providing security solutions to people and their property. AGM offers remarkable reliability, flexibility and customized security and surveillance solutions across diverse industries, including casinos, industrial buildings, banks, public institutions, education, sports facilities, shopping centers and private individuals. Areas of exercise include anti-burglary security systems, access control, fire alarm systems, gas leak alarms, video surveillance and system design. For more information, please visit www.agm.si/en/index.php

About Transition Networks Inc.

Transition Networks Inc. offers networking connectivity solutions that make networks perform more efficiently, more quickly and more reliably, while helping companies leverage their existing networking infrastructure.

Transition Networks brand of media converters make conversion between disparate media types possible, providing conversion technology solutions that offer the necessary adaptations without affecting the performance, nature or appearance of the network. Its complete portfolio of multilayer switching products is designed to facilitate low-cost network evolution with unique solutions, easing the stress on networks caused by high-bandwidth applications. Transition Networks’ portfolio of Power over Ethernet (PoE) media converters and switches provide power and data at the furthest points of an Ethernet network, including in harsh outdoor environments.

Based in Minneapolis, Minnesota, USA, Transition Networks distributes hardware-based connectivity solutions exclusively through a network of resellers in over 50 countries. Transition Networks is a wholly owned subsidiary of Communications Systems, Inc., a publicly traded company (NASDAQ:JCS). For more information, please visit www.transition.com

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