



NYC Marathon Highlights the Power of Partnering for Shared Security Network

"The collaborative effort between the marathon team and the more than 40 local agencies viewing feeds coming off of our Milestone XProtect platform is simply amazing."

Glenn Taylor, Executive Director, VIRSIG LLC

The Challenge

For the 50,000 runners pushing the limits of their physical endurance, the finish line at the TCS New York City Marathon represents the achievement of a lifetime. For those responsible for safety, however, the very same finish line can present challenges. The tall trees that line the curvy roads and pathways in Central Park do not provide a clear line-of-sight, and often runners are hidden from the view of medical and safety personnel who are responsible for responding to emergencies in an informed, concise manner.

The Solution

The New York Road Runners hired a consummate team of leading security industry partners. Security technology provider VIRSIG LLC configured and deployed a high-availability wireless network in and around Central Park, where the marathon's finish line is located. The network consisted of the latest Sony IPELA ultra-wide, dynamic-range network surveillance cameras, and TBus Ethernet transmitters provided by Network Video Technologies (NVT). These components were linked together with Firetide dual-radio, tri-band spectrum wireless mesh nodes that securely transmitted concurrent video and voice data to the Race Command Center (RCC), where the marathon's XProtect® Smart Wall installed by VIRSIG displayed up to 36 simultaneous camera views. Milestone XProtect® video management software (VMS) served as the platform for live or recorded playback. Centennial Security Integration assisted with installation to transform the multiple-node architecture into a seamless unified system.

Institutional Profile

With 50,530 finishers and an estimated 2 million onlookers in 2014, the TCS New York City Marathon was the world's largest. With the exception of 2012, when Hurricane Sandy interfered, the race has been organized every year since 1970 by the New York Road Runners. Tata Consulting Services (TCS), an India-based company, began its 8-year term as title sponsor in 2014.

Milestone Open Platform Delivers High Performance, High Availability

The open platform architecture of the Milestone VMS made it possible to configure and deploy a network with the depth and flexibility required to deliver more reliable functionality to more people in more places. The IPELA engine of Sony's latest ultra-wide, dynamic-range network surveillance cameras provided the outputs, including fixed models with on-board video analytics, Pan-Tilt-Zoom and 360-degree capabilities. These were managed and viewed through Milestone XProtect® Corporate, a powerful IP VMS developed for large-scale, high-security deployments. Personnel in the Command Center had a consolidated operational view in a 55-screen XProtect Smart Wall, while roving staff could view video while on the move using the Milestone Mobile client.

"What we brought to the system is a platform that allows us to create an ad hoc environment, so any place we need to drop a camera, we have a wireless mesh that extends the network out into areas where you typically could not put one," says Taylor. "Milestone enabled us to provide a high-availability, high-performance network along with a high-availability, high-performance video management system."



A Consolidated, Operational View



Dr. Stuart Weiss is the medical director for the New York Road Runners. On race day, his job was to direct the tent near the finish line that was fully staffed as an emergency room. The goal, he says, was to treat onsite as many as possible of the runners requiring medical attention who could then be sent home. Weiss says that the video capabilities proved to be a critical part of his team's situational awareness, supporting decision making by offering views of the finish line, walk-off areas, various parts of Central Park and feeds from various points along the marathon's course.

Being able to see runners as they finished the race helped his team identify those who needed to be sent to emergency rooms for treatment and, at the same time, begin to determine what type of care needed to be provided for those whose injuries could be treated in the tent.

With more than 50,000 people crossing the finish line, keeping track of what was going on as the runners cooled down on their way to the area where they reunited with congratulating family and friends was a complicated undertaking. In addition to sheer volume, the cool-down period is one in which trauma is most likely to occur.

"The Milestone software helped us integrate all the camera feeds into one screen area we could easily look at to see what was happening across the area," Weiss says. "We used it to make critical decisions throughout the day."

One of those critical decisions was made by the race commander, who used his view of each of the five medical tents to make numerous decisions, including which tents were at capacity and needed more medical personnel and which tents were able to receive additional people. Even when the electricity went out on one of the poles on which a camera had been mounted, a tech was able to use the





Milestone Mobile client on a mobile device to send images from that location back to the command center.

Taylor says the depth of situational awareness the race commander had would have been especially valuable had there been a more widespread power outage or any other type of emergency in or near any one of the tents.

IP Cameras and Network: Built-in Intelligence

Taylor reports that the advantages an IP-networked camera system has over analog was abundantly clear almost immediately. The biggest advantage is that it enabled a much higher level of situational awareness, which is of critical importance for a crowded sporting event where there is a greater likelihood of injuries. The fact that the network was IP-based also enabled it to accommodate analytics capabilities.

"Thanks to the intelligence built into every camera and into the network as a whole, we were able to monitor and know exactly what was going on at all times," Taylor says. "We were also able to add analytics to the system, which let us pinpoint the exact location of a problem. That's important when you're dealing with a lot of cameras. Analytics help push you in the right direction."

Greater Reach, Performance and Availability

Taylor says that the Milestone platform enabled the creation of what he calls an ad hoc environment in which cameras could be placed exactly where they were needed. The open platform's ability to accept a wide range of wireless devices, according to Taylor, gave the deployment far greater reach.

"As long as we had access to power, I could put up a wireless radio and a camera and have eyes and ears where you'd never have had a network otherwise," he says.

One location where a network would have been difficult to deploy if it weren't for wireless capabilities, Taylor says, is Central Park West. Most wireless equipment requires a clear line of sight, a rare luxury in a setting more known for winding roads and dense vegetation. Taylor overcame that challenge by installing wireless transmitting devices at the tops of 140-foot utility poles; the wireless devices received signals from the IP cameras that carried the data to the servers, where it the images dramatically increased the marathon's overall situational awareness.

"The wireless mesh extended the network out into areas where you typically would not be able to put a network," he says. "We created a platform that everyone was able to share in order to make the marathon a safer, more secure event."



See the NYC Marathon video at

https://www.youtube.com/watch?v=8am4_ey3TQs&feature=youtu.be, and learn more at www.centennialsecurity.com, www.firetide.com, www.milestonesys.com, www.nvt.com, www.sony.com, www.virsig.com.