Paul Dodds considers the very unique challenge of providing security to huge crowds in stadiums and explains how Twickenham recently carried out an overhaul to keep its visitors safe

STADIUM SECURITY FO

Stadium security has dramatically evolved over the last few decades. On one hand, welcoming hundreds of thousands of visitors to a stadium, monitoring crowd behaviour and flow through a massive venue, protecting players and entertainers, and ensuring a positive guest experience are still top of the list for security directors of the world's largest stadiums. On the other hand, ever-increasing global security threats including terrorist and cyber security attacks are putting even more pressure on these directors to ensure that their venues and security teams are equipped to prevent and handle the most compromising risks.

These risks have changed the game for the security departments of international stadiums and arenas. Instead of solely focusing their attention on what is happening within the venue, ensuring that VIP guests and incoming patrons are happy and safe means that they are increasingly primed to keep unwanted individuals out. In response, security directors and stadium management are rethinking their environments and pushing their security perimeters beyond the borders of their venues. Security efforts are not just concerning the stadium alone; increasingly, efforts are expanding to encompass its surroundings which sometimes include car parks, pedestrian walkways, retail shops, restaurants and other amenities. Stadiums are transforming into mini-cities, which require combined efforts with local and federal law enforcement agencies, retailers, transportation organisations and others to ensure the highest levels of safety for all.

As new challenges manifest, stadiums are turning to advanced security technologies to not only help them detect and respond to threats within their expansive sites, but also foster greater collaboration with police forces.

Today, stadium security directors are seeking flexible open-architecture security systems that can offer the freedom to initially reuse existing technology investments from multiple hardware vendors, such as cameras, door readers and other devices, while having the option to replace the hardware with newer technologies as they come to market. For example, some of the most advanced open architecture video management systems can support an expansive selection of video cameras with high-definition clarity, wide dynamic range (WDR), 360° views and capture all video at high frame rates. This provides the video clarity and coverage that is necessary for security operators to effectively spot and determine what is happening within a stadium at any given point.

The critical nature of the stadium environment also suggests a need for security technologies that will help automate operator tasks and increase their efficiency at diffusing threats before they escalate. For this, stadiums are turning to unified security platforms, which combine video surveillance, access control, automatic number

plate recognition (ANPR), intrusion detection, video analytics and intercom, and other key business systems within one solution.

For instance, when someone attempts to force open a door within a stadium, an alarm is automatically sent to an operator, who can immediately see video of the event from nearby cameras, and prompt a voice conversation through the intercom system to address the individual. Operators can also tie-in perimeter solutions, which allow the system to alert operators to any motion detected on fenced perimeters. In the event of an alarm, all cameras will zoom into the possible intrusion, and if required, operators can dispatch on-foot guards to respond.

Integration with video analytics systems can also be used to identify crowd bottlenecks, control the flow of traffic through the venue, or spot long queues at kiosks. Monitoring hundreds of cameras to spot these issues is cumbersome. Instead, operators are alerted to these events and can quickly follow procedures to resolve the problem and keep visitors happy and safe.

Automatic number plate recognition (ANPR) can also be installed at vehicle entry points. When an unwanted vehicle or one associated to a wanted individual hotlist approaches

An operator monitors video surveillance and access control using a unified platform

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the venue, operators will be automatically alerted, so they can deny access or apprehend any suspects upon arrival. An ANPR system can also be used to welcome VIP guests into secured and designated parking areas or track vehicle registrations for marketing purposes.

Twickenham Stadium the Home of England Rugby and the headquarters of the Rugby Football Union (RFU) recently underwent a full site assessment, and modernisation of its video surveillance and access control systems. The 82,500 seating capacity at Twickenham makes it the second largest stadium in the United Kingdom, and fourth largest in Europe.

According to Phil Parker, Head of Security at the Rugby Football Union, who spearheaded the upgrade project: "I didn't want to restrict the RFU to one single vendor, so an open platform was vital. More importantly, we wanted to move away from having to switch between different pieces of software. I wanted to make the lives of my operators easier by having all of our systems using one platform."

After spending a considerable amount of time and energy investigating each solution, the team was confident in its final decision, choosing Vindex Systems and its proposal for Genetec Security Center. Security Center is a unified, open-architecture security platform that enables the combination of IP video surveillance, access control, ANPR technology and other key systems within one intuitive solution.

"We felt confident that if an interesting new technology came onto the market, Genetec would ensure that we would be able to access its capabilities. That was one of the biggest selling points for our team," explained Parker.

Operators work from the unified security platform to manage over 100 cameras, several stadium doors, and a Digital Barriers analytics system, which provides virtual tripwires along the fenced perimeter.

"With Security Center, our operators are better equipped to handle potential security breaches. If someone tries to climb the fence, or open a door, our operators know about it immediately. They also don't have to monitor a variety of different applications like before. The system alarms and the associated video comes through one platform which makes the whole response process more efficient," says Parker.

While an open and unified system architecture is paramount to stadium security, other security system

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Cameras watch over Twickenham Stadium

features are also gaining the attention of international sports venues and arenas.

Features such as map-based interfaces help operators quickly navigate expansive stadium sites when seconds count. Operators can pull up video feeds from a map of their environment when on-foot officers radio-in for backup. With an advanced, unified and open-architecture security platform, operators can also monitor specific zones by simply clicking on an area of the map, which will prompt the security system to display video from all nearby cameras. Operators can also respond to alarms associated to access control or perimeter intrusion events.

Having mobile capabilities allows security directors or on-foot guards to monitor events from anywhere in the stadium using mobile devices, and equip responding security guards with body-wearable cameras. Integration with wearable technologies provides operators with unique vantages of an incident, and added evidence for stadium managers who might face liability disputes later on.

Collaborating with outside agencies such as law enforcement is also key to ensuring the success of any event within a stadium, and certain features such as the federation feature enable this task. A federated architecture allows for many independent systems to be managed as one virtual system and specific user rights can be programmed to help to enforce privacy policies. In the event of an emergency, all involved stakeholders can tap into video feeds from cameras and work with shared information to enact efficient and collaborative response to an emergency.

Much like cities, international stadiums and sporting venues are faced with a greater need to balance privacy and security. The public at large frequent the stadiums, not to mention high-profile sports figures and entertainers. While securing the physical security environment is critical to their operations, more stadiums will be investing efforts to fortify their logical security, or what has been

commonly termed— the 'Security of Security'. Stadiums will seek to implement far more stringent measures to protect the access to their security infrastructures, ensuring the right protocols are in place, including; encrypted communications, data protection capabilities, and strong user authentication and password protection features.

The growing number of high-resolution cameras and requirements to keep video surveillance content for longer periods of time will also encourage stadiums to find more economical means to expand their storage infrastructure. This will inevitably lead to an investment in cloud archiving services, which allows stadiums to keep longer-term video and data archives in the cloud, while storing short-term archives on local premises servers.

Cloud archiving helps stadiums accommodate longer retention periods for legal or liability assurance and realise significant cost savings without losing access to pivotal evidence. Video is securely stored in the cloud, and strict user authentication and privacy features ensure proper chain of custody, restricting only those with authority to access the files.

As the global security landscape keeps adapting to new threats that target mass events and venues, stadium security directors will continue to evolve their security systems to meet these challenges head on. Stadiums that invest in open-architecture and unified security solutions with flexible features that deliver faster response and federated collaboration with outside agencies will be best equipped to respond to these threats.

While an advanced security platform cannot prevent anything from happening on game day, it can help stadiums and their security teams identify, respond and diffuse threats, whether physical or logical, faster and more effectively than ever before. This also leads to a greater sense of safety for all visitors, who can continue to enjoy cheering on their favourite sports teams or hearing famous bands and entertainers play live music for a long time to come.

Paul Dodds is Country Manager UK & Ireland at Genetec. Paul has over 14 years security industry experience across installation, manufacturing and distribution. Having trained as an electronic engineer and installer, he held senior positions in Xtralis, Honeywell, The White Group and ESI.