How Video Surveillance Standards Has Revolutionized Security

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Video surveillance technology has seen a significant development in the last fifteen years. The days of clunky, compartmentalized systems and blurry, analog footage are long gone. A strong ecosystem of standards has brought in a new era of feature-rich, effective, and interoperable video surveillance systems. The focus of this article is to examine some of the fundamental guidelines that have transformed this important area of security.

Open Network Video Interface Forum (ONVIF)

Imagine a system where security cameras from various manufacturers communicate with one another with little to no issues. With the establishment in 2008 of ONVIF as a global standard, this wish came true. It establishes a standard protocol for peripheral functions, camera control, video streaming, and device detection.

The ONVIF standard has created several advantages highlighted below:

-Interoperability: Combine cameras from different manufacturers into a single system to increase flexibility and protect your investment in the future.

-Decreased Expenses: System maintenance is made simpler and integration costs are reduced with standardized components.

-Scalability: Regardless of the manufacturer, you can easily add more cameras to your system to accommodate future expansion.

An added element of the ONVIF standards is the Physical Security Interoperability Alliance (PSIA). This standards organization was established in 2000 and deals with metadata interchange, device management, and access control integration. PSIA adopts a more comprehensive strategy, where ONVIF concentrates on essential features. The PSIA set of standards enhances ONVIF by offering a structure for:

-Advanced Security Features: Combine video surveillance and physical security measures with ease by integrating access control systems.

-Enhanced Management: Simplify system administration by standardizing device management activities including configuration and firmware updates.

-Integration of Metadata: For more in-depth analysis and forensic investigations, extract important data such as timestamps, camera locations, and object detection.

Video Compression Standards H.264 and H.265

Systems for video surveillance produce enormous amounts of data. This is where video compression standards like H.265 (published in 2013) and H.264 (founded in 2003) become relevant. These standards greatly reduce video data while preserving image quality. Among the benefits of this set of standards include decreased storage requirements, effective bandwidth utilization, and extended recording times.

RTSP, or Real-Time Streaming Protocol

Imagine having access to live video feeds at any time and from any location. This is made possible by the 1998-founded RTSP protocol, which offers a standardized approach to real-time video streaming over IP networks. The most notable advantages of this set of standards are improvement in response times for remote monitoring, mobile accessibility, and the ease of video stream integration for centralized monitoring Video Management System capabilities.

In addition to these prominent standards, industry organizations are establishing guidelines which are constantly pushing limitations. For example, the Security Industry Association (SIA) ONVIF Profile is an enhanced interoperability and security feature-rich configuration of ONVIF. The Alliance for Open Security & Safety (OSSA) is another which attempts to provide standardized communication protocols so that security equipment such as intrusion detection can be integrated with video monitoring.

There is no denying these standards' influence to furthering the integrity of video surveillance. They have given companies and organizations the ability to create reliable, expandable, and affordable video surveillance systems. We can anticipate even more cutting-edge standards to emerge as technology continues to evolve, opening the door for Artificial Intelligence Integration, Cybersecurity Enhancements and Cloud-Based Surveillance, among other emerging technologies in the sector.

Thanks to the standards created over the last decade and half, security experts can stay ahead of the curve when creating video surveillance solutions to make everyone's environment safer and more secure.

Jay Bartlett has been in the computer industry for over four decades and in the storage management since 2000. A serial entrepreneur, Jay has founded software and hardware companies and has managed many technical teams to deliver innovative solutions to the market. As the CEO of Cozaint, Jay is driving intelligent surveillance solutions to the physical security market.