Asia-Pacific Government Agency Chooses SafeNet High Speed Encryptors to Protect Real-Time CCTV Data Transmissions for Border Control and Monitoring

The Organization
An Asia-Pacific government agency, responsible for providing integrated control and monitoring of their border security, has implemented an extensive closed-circuit television (CCTV) network to monitor a number of major transport hubs.

The Business Need
Due to very high data volumes, sensitive video information captured and transmitted, and risks of interception between camera and remote monitoring stations, it is imperative that the video streams’ security and integrity be encrypted. Network performance is also crucial to the system’s effectiveness to meet the real-time monitoring requirement.

Challenge
- The agency needed to encrypt its large volumes of latency sensitive CCTV video data, ensuring real-time monitoring while still maintaining network performance and simplicity.

Solution
- By encrypting the CCTV video using SafeNet High Speed Encryptors, the agency was able to ensure that the movement of people, goods and conveyances through its checkpoints is legitimate and lawful.

Benefit
- The agency can now ensure that all of their CCTV data is encrypted with SafeNet High Speed Encryptors from Gemalto, resulting in real-time video data without delay or distortion.
The Benefits

The agency was able to experience the benefits that only the industry leading SafeNet High Speed Encryptor product family is known for. The end-to-end Layer 2 Ethernet encryption solution by Gemalto provides:

- **Maximum network performance.** Gemalto’s high speed Layer 2 encryption technology introduces zero protocol overhead so that maximum bandwidth is available for data – up to 50% more efficient than competing technologies. SafeNet High Speed Encryptors provide the fastest network encryption available, operating at true line speed with no impact on latency, ensuring the high quality of real-time applications such as VoIP and video. High availability features support architectures with over 99.99% uptime.

- **Easy deployment.** Adding the SafeNet High Speed Encryptors to the existing network was effortless due to the “bump in the wire” design aspects of the appliances. There’s no need for network reconfiguration, so SafeNet High Speed Encryptors can be set up in minutes. The unique features of SafeNet High Speed Encryptors enable them to be seamlessly overlaid onto any network topology.

- **Top rated security.** SafeNet High Speed Encryptors use the strongest publicly available cryptographic algorithms developed by NIST (the Advanced Encryption Standard AES-256). The appliances are crypto-agile, using field programmable gate array (FPGA) technology that allows them to be easily upgraded in the field to keep pace with the evolution of cryptographic advancements. The tamper-proof design appliances are certified to FIPS 140-2 Level 3 and Common Criteria, providing a top rated “security focused” encryption solution for sensitive data.

The Solution

The agency originally planned to encrypt their video data by using a Layer 3 IPsec solution from a well-known vendor. Trials of this Layer 3 encryption solution failed, as the expected impact on bandwidth that encrypting at Layer 3 was proven to be a 50% decrease, mainly due to IPsec’s processing requirements. This decrease in bandwidth, coupled with a latency factor of 10x lead to video feeds that were unreliable in real-time and unusable as legal evidence for law enforcement activities.

The agency then implemented a Proof of Concept (POC) using Layer 2 SafeNet High Speed Encryption appliances. It was determined that encrypting at Layer 2 with the SafeNet High Speed Encryptors significantly improved their network performance, and succeeded where the Layer 3 solution had fallen short.

The SafeNet High Speed Encryptors were installed at a major transport hub and coupled to the central monitoring station and a number of CCTV cameras using Layer 2 Ethernet connectivity. The SafeNet High Speed Encryptors caused no decrease in bandwidth, and did not degrade the video quality in any way. Based on the outcome of this real-time test scenario, the agency purchased a number of SafeNet High Speed Encryptors for progressive roll-out throughout their extensive networks at major transport hubs.

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