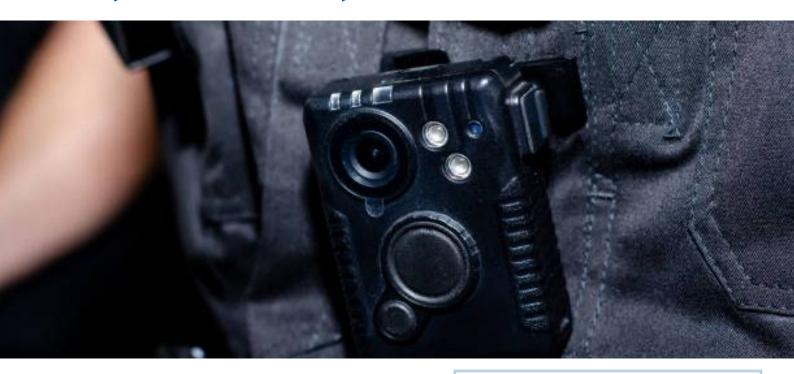SE*link*™

Zero Trust Networking and Security for Body-Worn Camera Systems

Background

The need for body-worn cameras (BWCs) has grown significantly in recent years, driven by increasing demands for transparency, accountability, and safety in law enforcement, security, and frontline services.

These devices provide an unbiased visual record of interactions, helping to deter misconduct, resolve disputes, and improve public trust. However, as the importance of BWCs rises, so do concerns about privacy, data security, and misuse.

Critics argue that without clear policies on data storage, access control, and usage, these devices could infringe on individual rights or be exploited for surveillance. As a result, while BWCs are recognised as powerful tools for enhancing accountability, their deployment must be balanced with robust governance to address ethical and legal risks.

Challenge

Body-Worn Cameras are deployed in different operations law enforcement missions. In this case specifically they are used by metropolitan police agency to enhance field visibility and evidence collection.

Through traditional VPN, these devices are used by officers during patrol and high-risk operations, transmitted real-time video and GPS data over public 4G networks to central command.

However, traditional VPNs introduced several issues :

Poor bandwidth utilisation impacting video quality

Latency and reliability during mobile handoffs

Personal data protection security risks data against breaches at all endpoints

Industry

Law Enforcement, Public Safety, Emergency Services & Response

Challenges

- Tamper-Free Evidence Collection
- Officer Safety
- Interaction Recording
- Live AI Recognition
- Stop (potential) devices' backdoors

Goals

- Simplified network
- VPN replaced
- Strong encryption and authentication
- All ports closed for network lockdown
- Improved latency
- Optimised bandwidth usage

Solution

SE*link*™ provides a zero trust networking with service-level virtual network segmentation, granular privileged access management. Delivering seamless video streaming services, efficiency, security and control to BWCs and Networks in a single solution.

Solution

SElink complements the use of Body-Worn Cameras (BWCs) by providing a secure, low-latency, and tamper-proof communication infrastructure for transmitting and storing video footage, while also enhancing the cybersecurity posture of the devices themselves.

In addition to enabling real-time, encrypted video streams from the field to centralised monitoring centres, SElink incorporates a software agent within the BWC or its connected system to enforce strict network isolation policies.

The SElink agent prevents potential vulnerabilities within the BWC, such as unpatched firmware or compromised modules from being exploited to spread laterally across the network.

Furthermore, SElink blocks unauthorised outbound connections, effectively preventing external threats from communicating with hidden backdoors or remotely taking control of the device's functionalities.

By eliminating unnecessary network exposure and enforcing application-specific communication rules, SElink ensures that BWC devices operate within a tightly controlled and trusted environment, safeguarding both data integrity and operational resilience.

Benefits for Resilience

1. **All ports closed,** eliminating possible cyber attacks
2. **Communication** locked to approved BWCs only
3. **Stable** real-time video without service drops while maintained continuous visibility with command centre
4. **Protected** from possible vulnerabilities on unpatched BWCs with outdated firmware
5. **Enhanced system longevity and resilience** to quantum attacks
6. **Seamless encryption updates, redesign-free** through Crypto agility
7. **Rationalisation of operational costs:** NO VPN, NO PKI infrastructures, NO public/static IP addresses
8. **Efficiency and ease of management**

Video Wall At Command Centre

- NIST PQC Encryption With Zero Overhead Bandwidth Security
- Low Latency Crypto Agile
- Cyber Resilient

WiFi/LTE/5G

Body Worn Camera
(No special SIM, APN nor Public IP Required for BWC)

Command & Control Centre
- SElink™ Gateway (Fully Controlled By Customer)
- Video Management System (VMS)
- Video / Facial Recognition & Analytics Systems
- Automatic Number Plate Recognition (ANPR)

Remote Access Users to BWC