

FENCES AND BORDERS USE CASE

Advanced Networking Solution For Fence Protection



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Overview

Smart fences for protecting Military bases, Borders, Refineries and other, strategic facilities is improving security while saving human effort. The fundamental requirement for HLS applications is a Smart and Secure Networking infrastructure that will reliably connect various cameras, radars, signs, gate and other “edge” devices with algorithmic solutions and applications.

The problem

Today’s Networking solutions are using communication boxes and braids of cable creating multiples ‘single point of failure’ they are also slow to deploy, hard to scale and are also visible targets for vandalism. Wireless connectivity/networking alternatives are sensitive to jamming (interference generators) and insecure. Thus, not usable for sensitive HLS applications



The Requirements

- Highly secure network with powerful monitoring
- Provide both Connectivity and Electricity for the supported edge devices
- "High Availability“, redundancy and self-commissioned network for supporting critical systems
- Supporting standard and classified equipment while providing a dedicated network for each application. In addition, Plug & Play ability of mobilize and connect devices anywhere
- Flexibility and ability to change/grow, adding more devices fast and at marginal effort and cost
- Server-less, management with no “single point of failure” system and network

Approach

- ✓ High-Bandwidth to support symmetric high data bitrate
- ✓ Using a Small Form Factor Switch
- ✓ Installation inside or outside Lamppost or fence pole
- ✓ No single point of failure
- ✓ Multi-Tenant Network with isolation (VLAN) per Application
- ✓ Automatic Load-Balancing and automatic redundancy
- ✓ Power source available 24/7 and powering end device with PoE
- ✓ Standard connection of end devices
- ✓ Weatherproof ready for severe environmental conditions

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Results

\$

Overall Cost

Major cost reduction compares to the budget



Full Redundant

Fully automated architecture supporting complex topology providing full redundancy

<20

Communication Cabinet

The solution requires communication cabinet every 2Km instead of every 100m

<Time

Installation Time

Plug and Play Installation 10X faster than any alternative solution

PoE

Providing Power

Provide both connectivity and Power (PoE)

<100

Better Latency

The solution latency is 100 times better compare to routing-based solution

DALI

Smart Light

Controlling the Light enable multiple security features like color changing or blinking

<10

Less Cabling

The implementation requires about 10 times less cabling