Unified Cyber-Physical Protection Solution

CRITICAL INFRASTRUCTURE CYBER SECURITY TECHNOLOGY

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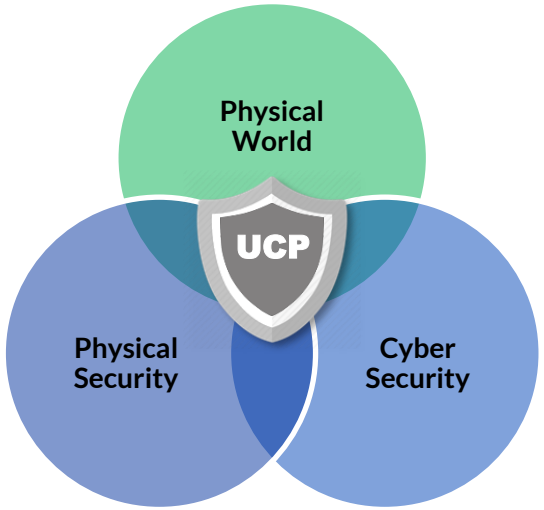
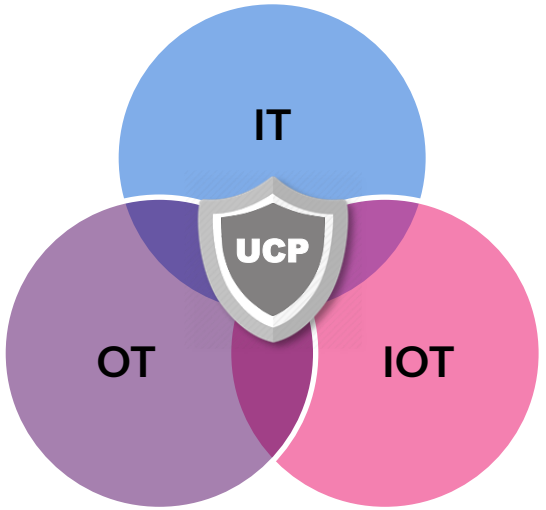
Unified Cyber-Physical Protection (UCP)

WE BRING SECURITY TO LIGHT™

The protection of infrastructure hosting assets that integrate the physical environment with cybersecurity to monitor, protect and secure physical, network and computer systems from unauthorized access, theft, damage and disruption of service. UCP addresses threats through a layered approach, at the cross sections of where physical infrastructure plays a crucial component to the security, health and operation of the overall IT, OT or IOT environment.





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Infrastructure Cyber Security Threats

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- Information Technology and the transfer of data entail for 80%+ of the day to day functionality in todays world.
- This has created an immediate demand to keep our infrastructure across many industries safe and secure to protect our society and way of life.
- This isn't something that hasn't been noticed and addressed, in fact billions of dollars have been spent to help build strong defenses resulting in a enormous in-flux in the Cybersecurity market over the last 5 years.
- 90% of these efforts are geared towards preventing a network security breach. (Malware, Phishing, Viruses, etc.) In other words, the targeted enemy fits the "hacker" profile

Market Emergence (Demand)

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Level 3 fiber cut disrupts TWC, Cox Internet service in the Northeast

'Coordinated attack' downs services with cut lines

FBI Investigates New Attack On Internet Fiber Optic Cables

Cut cables in the California Bay Area disrupted Internet service as far north as Seattle

Cyber-Attack Knocks Out San Francisco Transit System Fare Terminals

The mystery of the listening devices at DND's Nortel Campus

Vandalism in Arizona Shut Down Internet, Cellphone, Telephone Service Across State

Incident raises concerns a domestic or international terrorist could tamper with U.S. infrastructure

Cyber expert predicts 'very bad' infrastructure attack

Government Adoption

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- CNSSI 7003 compliant
- Cross Domain Alarm Reporting
- Auto Configuration
- SNMP v3 event data
- Secure communications over SSH v2
- UL, FCC Part 15, IEC Class 1, CDRH Class1, and CE certifications
- RMF Accreditation
- Certificate of Networthiness
- Optical warning threshold
- Fiber Forensics
- Standard Operating Procedures (SOP)
- Highly scalable, centrally managed
- Remote data shut off
- Automated periodic testing
- Active Directory integration
- US Army past performance

NATO

U.S. AIR FORCE

WASHINGTON HEADQUARTERS SERVICES WHS DEPARTMENT OF DEFENSE

Raytheon

LOCKHEED MARTIN

U.S.ARMY

UNITED STATES JOINT FORCES COMMAND USJFCOM

Our Position in the Market

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- **Clear-Cut Leader in Sensor Technology protecting Layer 1 Infrastructure**
- **20+ Patents on Industry Leading Sensor Technology and Software Management Platform**
- **Only Government Solution in our Arena that has Accreditation for use on a US Classified Networks**
- **Only Solution that has a management platform capable to scale for local, regional, and global deployments.**
- **The First Sensor solution to be deployed globally in large commercial data centers.**

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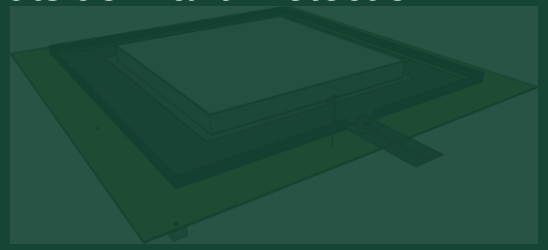
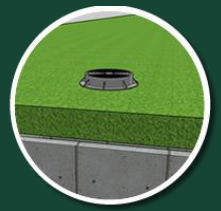
Outside Plant Protection



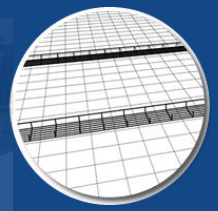


Maintenance Holes

OSP & Utility Pathways

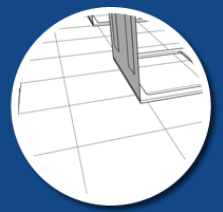
Perimeter Fence

Inside Plant Protection



ISP Pathways

Cage & Rack Door



Floor Systems

Cage Perimeter

Asset Protection

Cyber Tags

PRODUCT LINES

Manhole Protection System (MPS) ™

- **Sentinel CS ™**
- **Sentinel Focus ™**
- **Interceptor Focus ™**

- **Interceptor CS ™**
- **Vanguard CS ™**
- **CS Stoplight ™**
- **CS Universal Cyber Sensors ™**

- **CyberTag Protection System (CPS)™**

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Most Common Applications

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Protective Distribution Systems (PDS)

Critical Infrastructure & Pathways

Encryption Alternative

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Deployed Systems/ Past Performance

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NIS/CSIMS Technology is deployed in many areas across the globe, as this doesn't reflect all past projects, it isolates some of our key installs

- Department of Homeland Security (DHS)
- Large Commercial Data Centers
- Army (PACRIM, USAREUR, NETCOM)
- NAVY (AFRICOM,SPAWAR)
- AIR FORCE (Andrews AFB, PACAF, ARNG)
- MARINE CORP
- DoD Prime Integrators (Lockheed, Northrop, Boeing, CISCO)
- Power Authorities (SCADA)
- Federal Shipyards
- Joint Forces Commands
- Department Of Energy
- SOCOM

LOCKHEED MARTIN

New York Power Authority

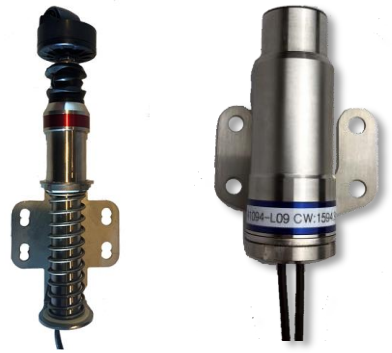
U.S. AIR FORCE

CISCO

Solution Components

Interceptor, Vaguard, Sentinel CS

FOCUS



Universal Cyber Sensors

CyberSecure Stoplight ™

CyberSecure Infrastructure Monitoring System

CyberSensor Controller

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INTERCEPTOR™ CS

Centrally Managed Alarmed PDS Solution

VANGUARD™ CS

Network Infrastructure Cyber Security Solution

SENTINEL™ CS

Perimeter Intrusion Detection Solution

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INTERCEPTOR CS Overview

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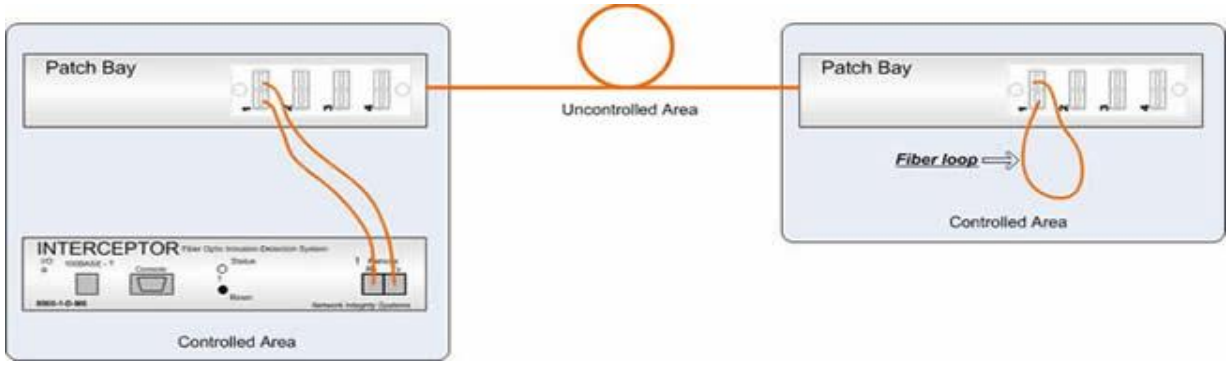

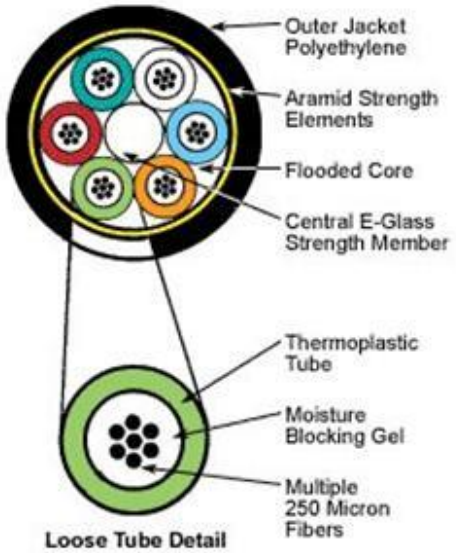

- Standard fibers ***intrinsic*** to (inside) the cables being protected are used to monitor intrusions into the ***cables themselves***

Designed for Data Infrastructure Security

Makes the entire cable a sensor

- Use a pair of fibers inside the cable being protected
- When any component of the cable is abnormally handled, the monitored fibers sense the disturbance

Event discrimination technology

- Learns the ambient state of the network and differentiates between benign events and real threats
- If an INTERCEPTOR alarms, there is a problem (perhaps not a threat)

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Software - CyberSecure IMS

PLATFORM

Windows Server

Physical or Virtual Servers Supported

KEY FEATURES

- Government Approved
- Developed in the United States by cleared personnel
- Centralized Alarm Management
- Rapid Alarm Dispatching
- Integrates into Existing Alarm Management Systems
- Integrated Standard Operating Procedures
- Fiber Forensics™ Technology
- Optical Warning System
- Web Client Interface

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CYBERSECURE IMS Screen Shots

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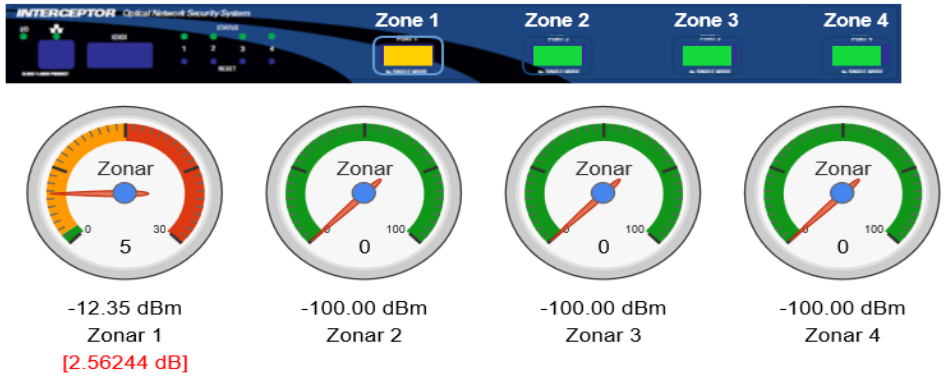

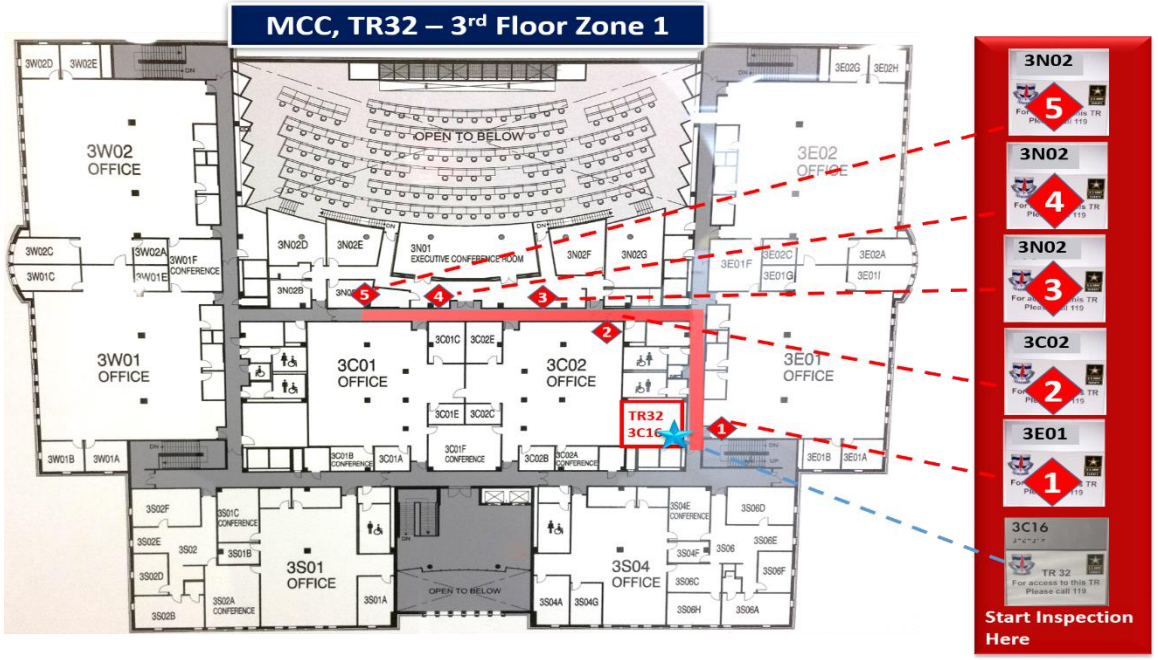

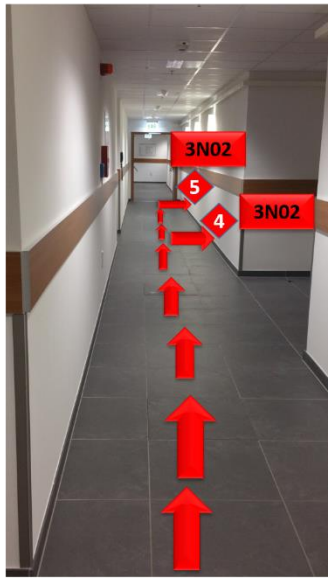

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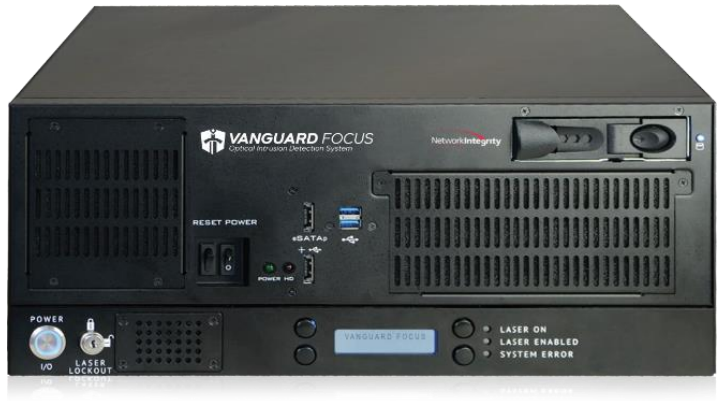
INTERCEPTOR *FOCUS*
Optical Intrusion Detection System



VANGUARD *FOCUS*
Optical Intrusion Detection System

SENTINEL *FOCUS*
Perimeter Intrusion Detection System

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FOCUS

KEY FEATURES

- **Capable of Long Range applications 40K+**
- Pinpoints exact location of Intrusion events
- Identifies disturbances such as vehicle approaching, digging, conduit entry, handling
- Low Installation cost, utilizing a single strand of SM cable
- Compatible to integrate to CSIMS management

CONNECTION TYPES

SM LC/APC

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CyberSensor Controller

KEY FEATURES

- Supports up to 16 Channels
- Each Channel Supports up to 40 Sensors
- Supports up to 800 Sensors
- Detects fiber cuts & dB loss at each sensor in real-time
- -20°C to + 60°C Operating Temp
- Can be Field Mounted in NEMA Enclosure

CONNECTION TYPES

SM LC/APC

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CS Universal Door Sensor

TECHNICAL DETAILS

Detection Technology	Fiber Bragg Grating
Stroke Length	5, 10, 15 or 20 mm based on options
Resolution / Response Time	1 pm / 1 ms
Fiber Pigtails	SMF Acrylate Coated 3 mm Armored Cable
Standard Pigtail Length	915 mm (3 ft) or custom
Key Features	Operating Temperature Range of -40 C to 80 C Durable steel construction, designed for security applications, rated for 100,000 cycles Fits Rack Enclosures, Cage Door Systems and standard NEMA enclosures

CONNECTION TYPES			
			
Fusion Splice	SM FC\APC	Custom	

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TECHNICAL DETAILS

Detection Technology	Fiber Bragg Grating
Stroke Length	5, 10, 15 or 20 mm based on options
Resolution / Response Time	1 pm / 1 ms
Fiber Pigtails	SMF Acrylate Coated 3 mm Armored Cable
Standard Pigtail Length	915 mm (10 ft) or custom
Key Features	Operating Temperature Range of -40 C to 80 C IP68 Rated—Works under water Ruggedized steel construction, designed for security applications, rated for 100,000 cycles

CONNECTION TYPES

Fusion Splice | **SM FC\APC** | **Custom**

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Stoplight™ CS

KEY FEATURES

- **Automated Periodic testing of up to 100% of the INTERCEPTOR CS™ protected fibers**
- Periodic patching is crucial
- Data shutoff is an option (Different Patching)
- Supports Single-Mode and Multi-Mode Fiber
- Modular cards allow expansion from 8 to 32 ports

CONNECTION TYPES

SM LC/UPC

MM LC/UPC

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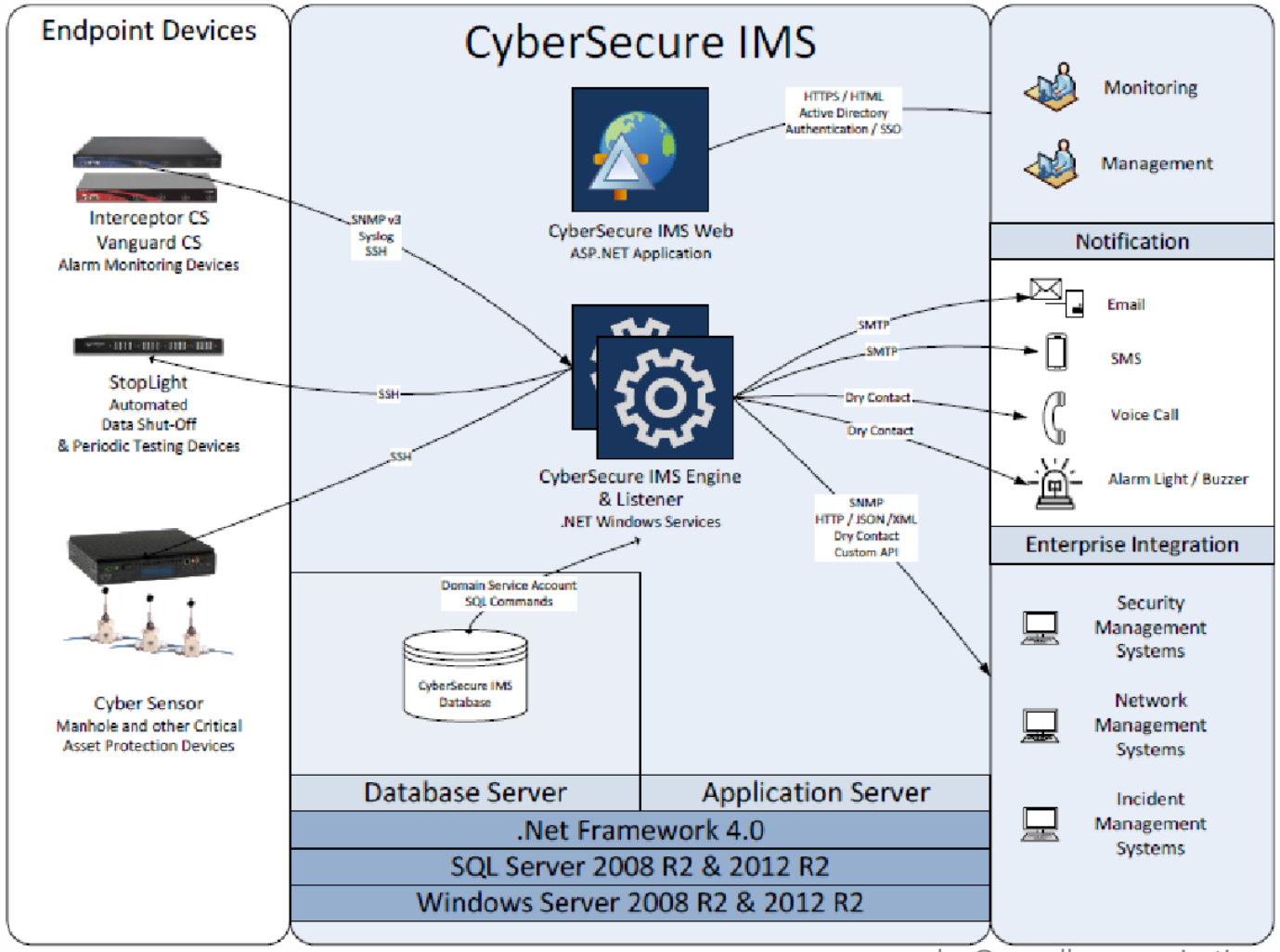
Deployment Architecture



TECHNICAL FEATURES

- Built on established technologies
  - Microsoft Windows Server
  - Microsoft SQL Server
  - Microsoft .NET
- Secure Protocols
  - HTTPS
  - Kerberos (AD Authentication)
  - SNMPv3
  - SSH
- Integration Support
  - Email
  - Voice Dialers / SMS
  - Enterprise API
  - Alarm Panels

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Basic Design Concepts

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Armored Fiber & Interceptor CS

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INTERCEPTOR + Armored Fiber

Because Interceptor monitors the cables rather than the conduit carrying the cables, with an Interceptor PDS, **the conduit is no longer necessary for the purpose of intrusion detection.**

Organizations deploying PDS have recognized this and are taking advantage by designing classified networks with armored optical cables, monitored by Interceptor, ***not contained in metal conduit.***

Benefits

- **Significant cost reduction**
- **Rapid deployment of classified networks**
- **No disruption to workplace**
- **Green technology**

Pathway Protection

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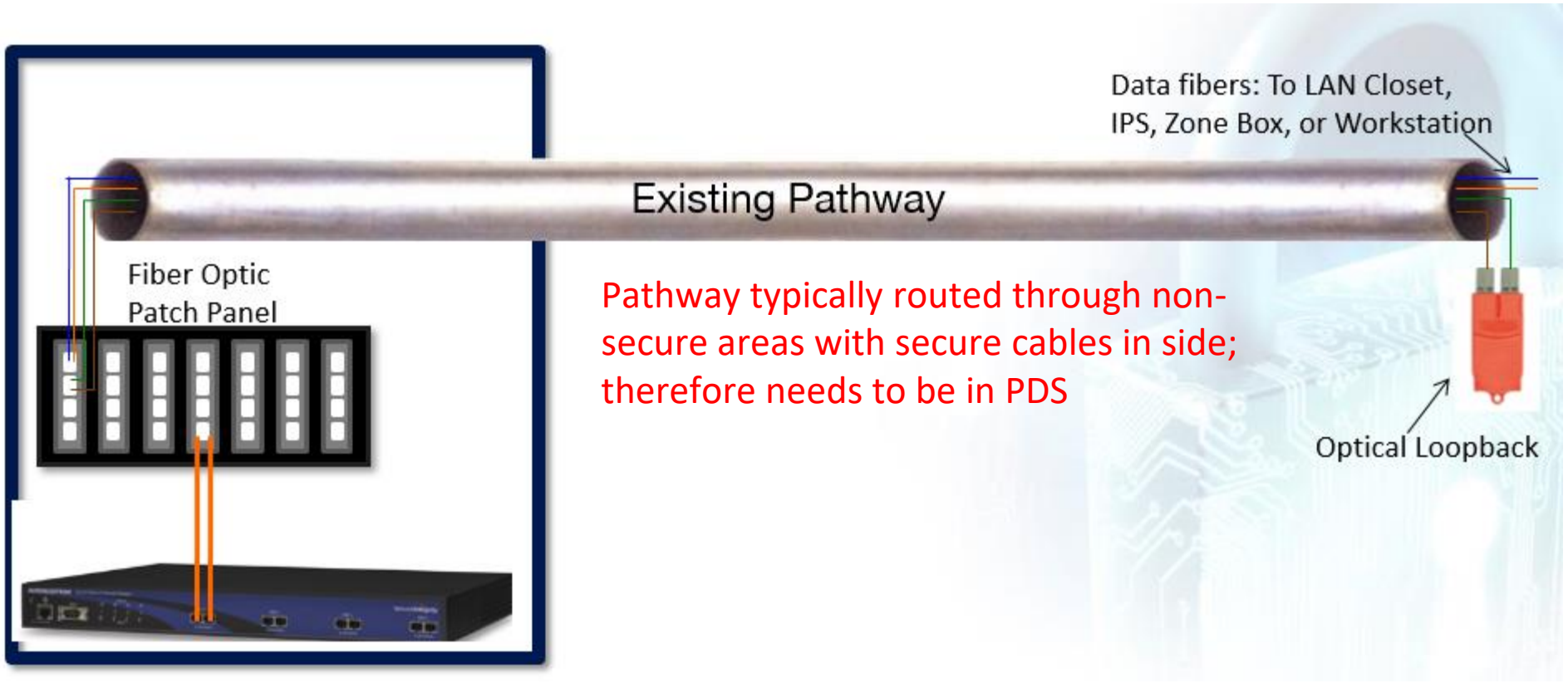
Common Application



Existing SCIF or Secure TR Closet

Interceptor + Government Safe = Compliant Classified Suite

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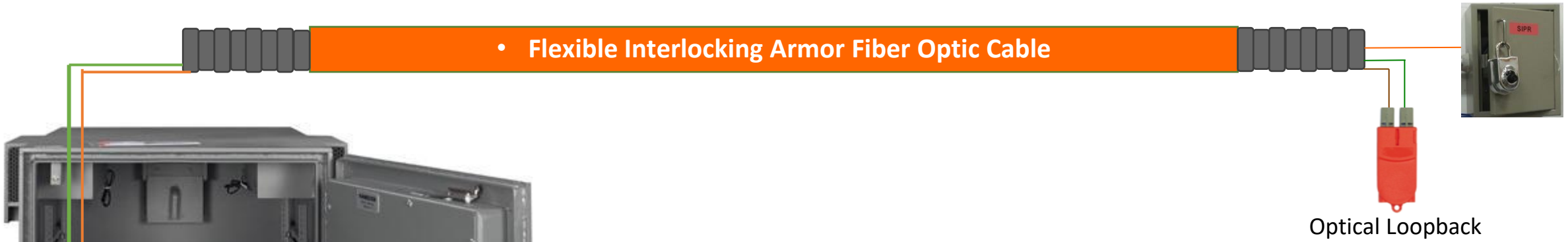
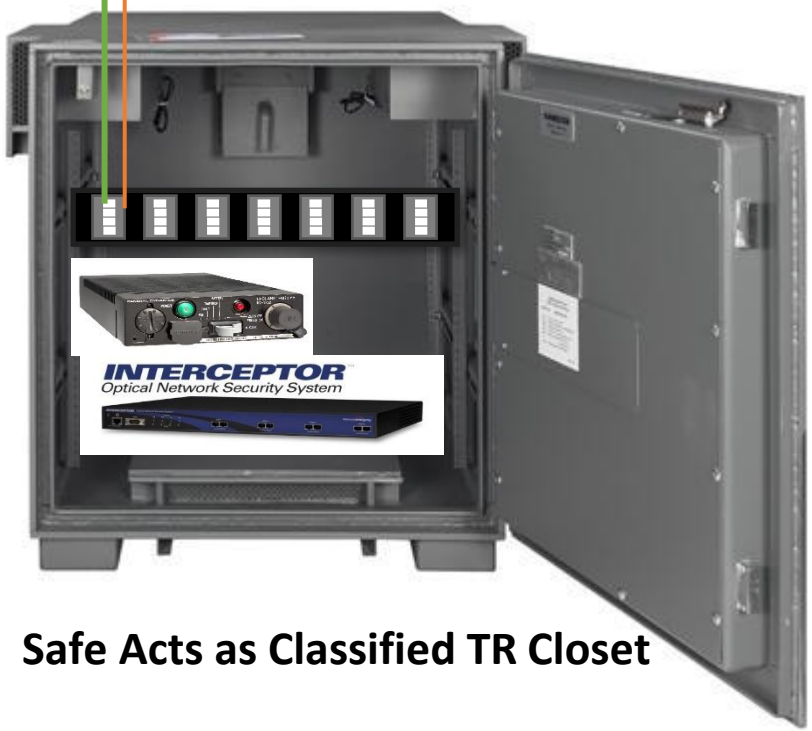


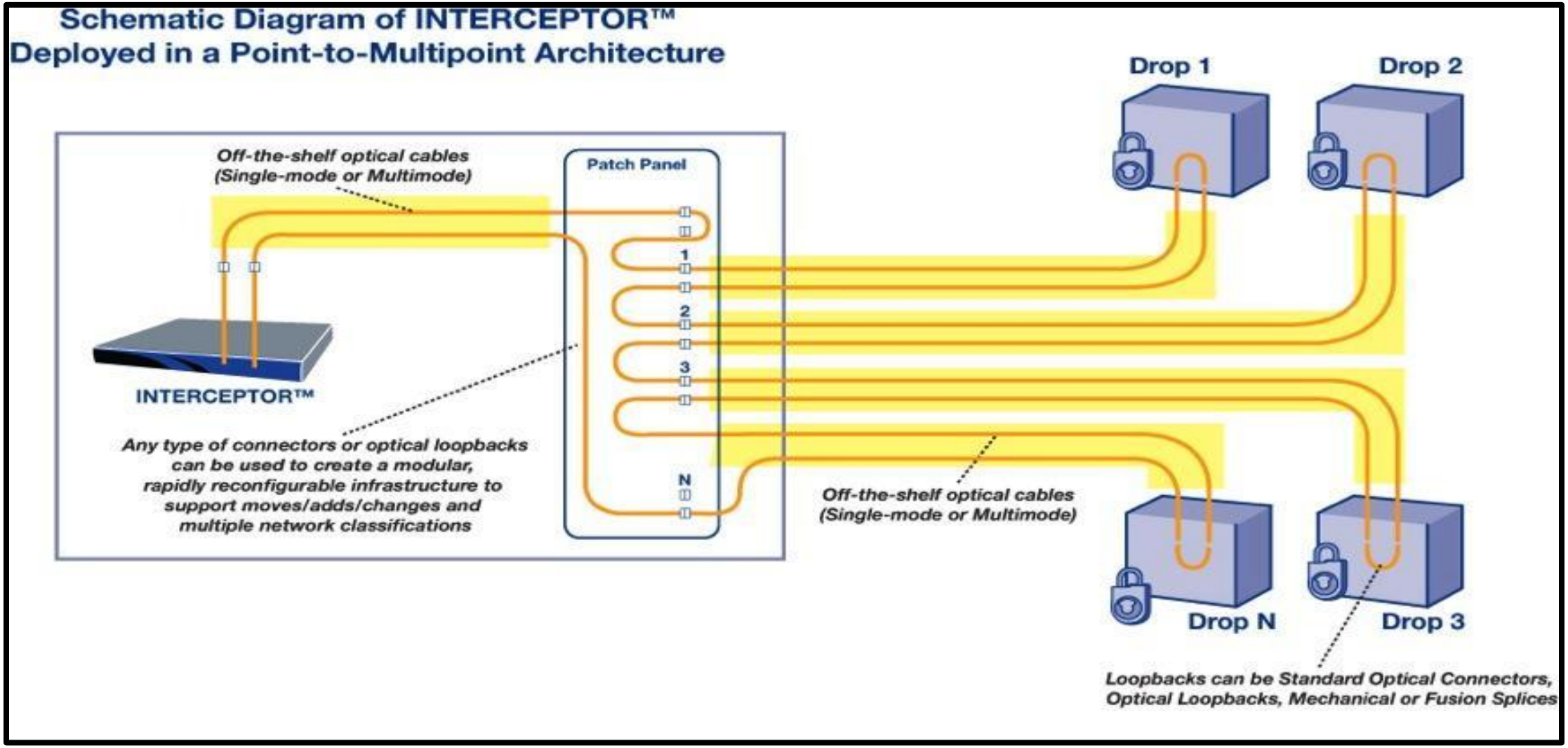


Safe Acts as Classified TR Closet

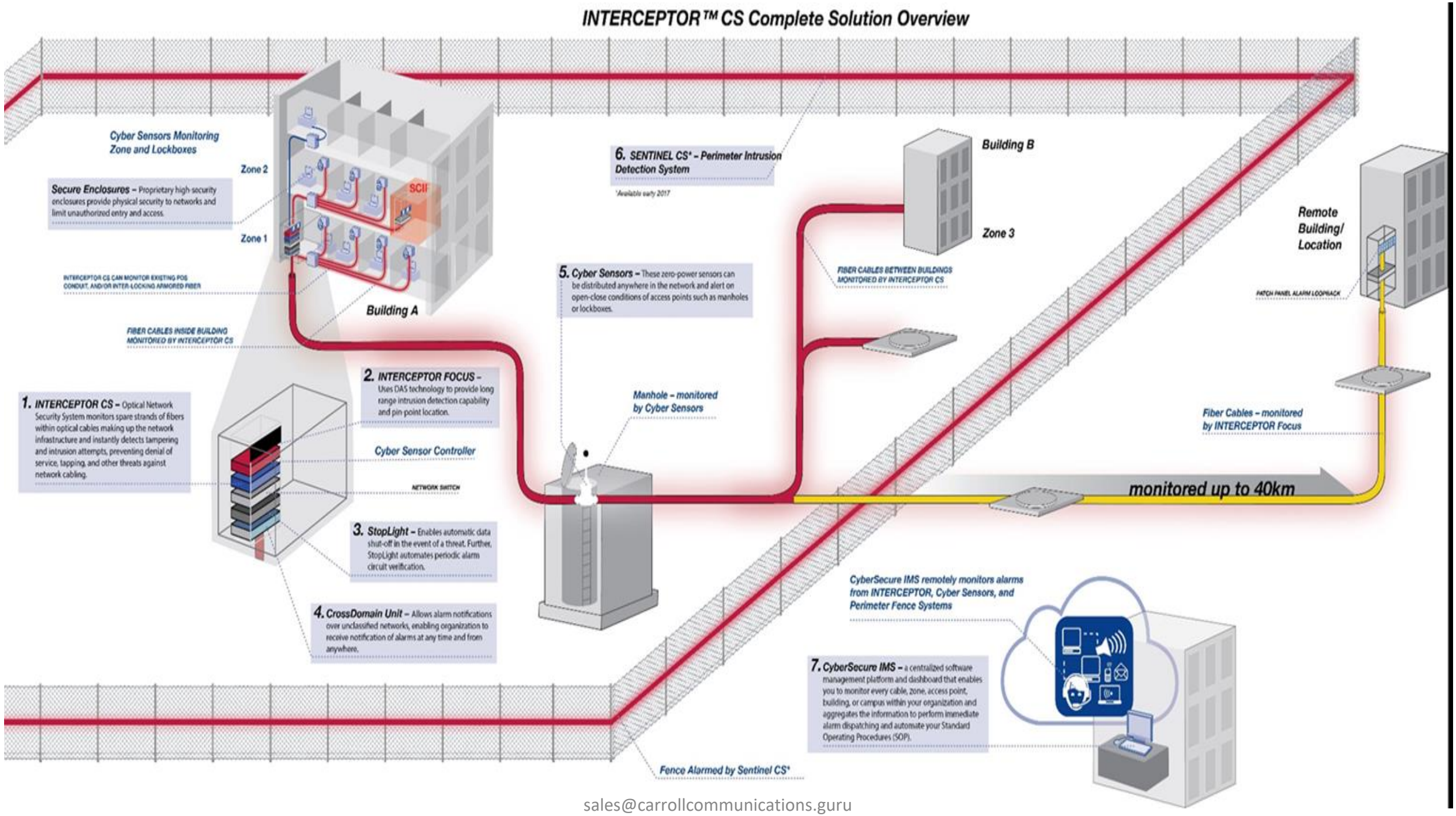
- Interceptor + Armored Fiber extends classified service to 25-50 users (Compliant)
- Taclane encrypts incoming OSP feeder/backbone cable

Point to Multi-Point Application

Most Common Application



INTERCEPTOR™ CS Complete Solution Overview



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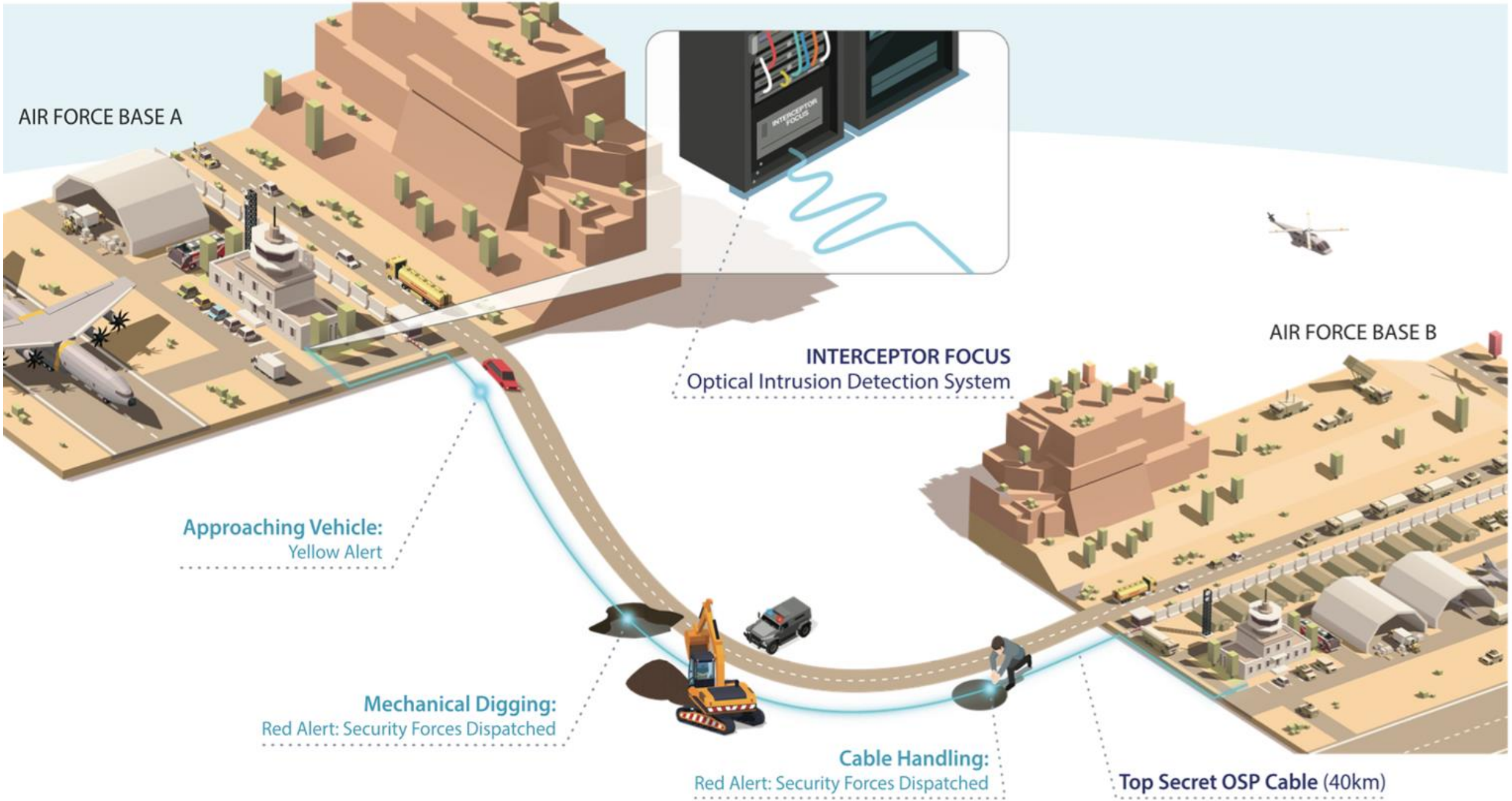

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Point to Point/ Building to Building

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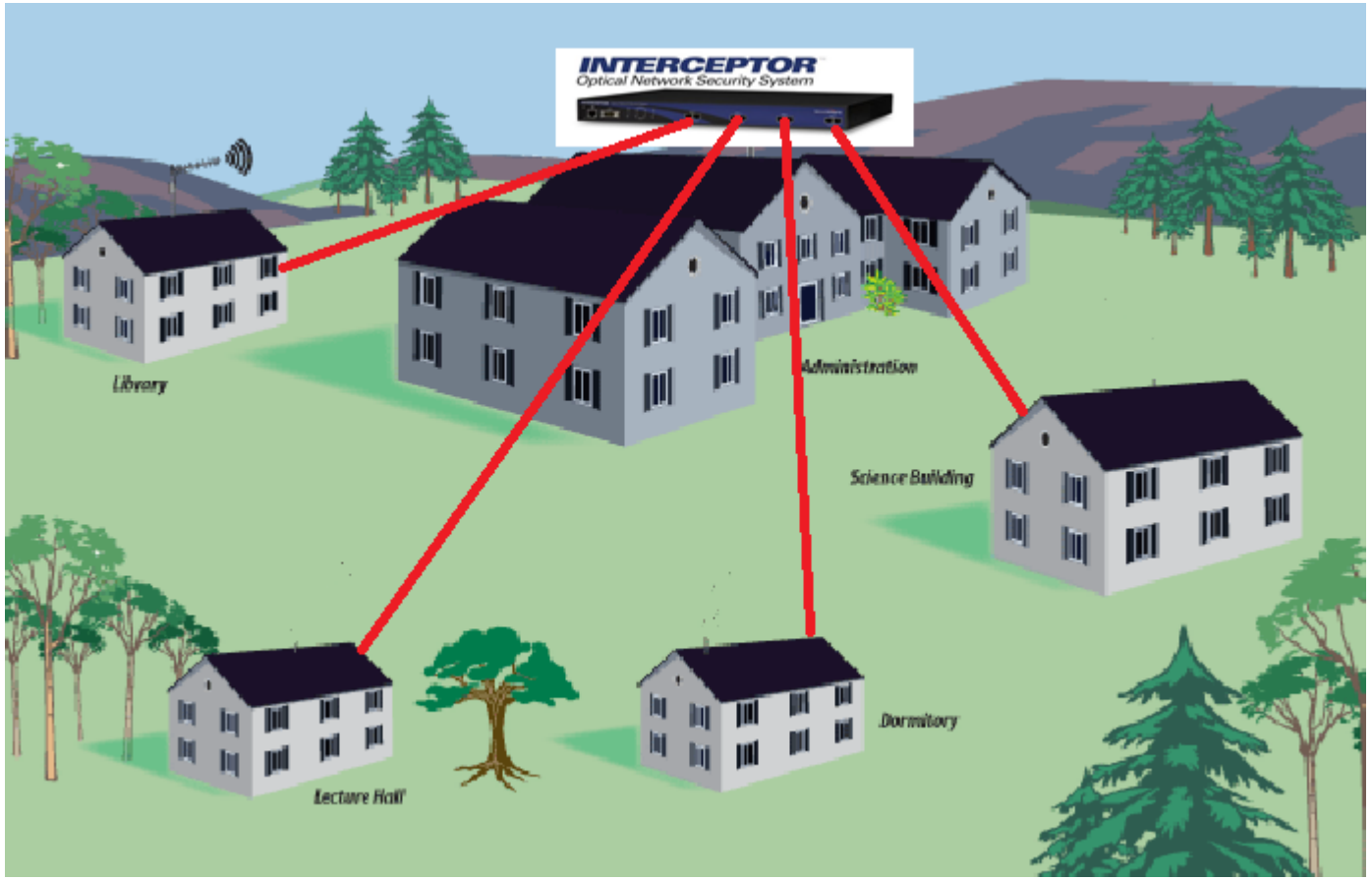
Zones 50-500’ no manholes present

- Admin building would be the head end and home to the Interceptor Hardware
- Each Building would have a dedicated zone, consisting of a physical loopback at distant location (No hardware needed)
- Perfect example of Encryption or Taclane replacement scenario. (You would eliminate potentially 8 Taclanes here
- This solution should be integrated to CSIMS, but can also act as a stand alone Interceptor deployment if needed



Interceptor w/ MPS -Point to Point/ Building to Building

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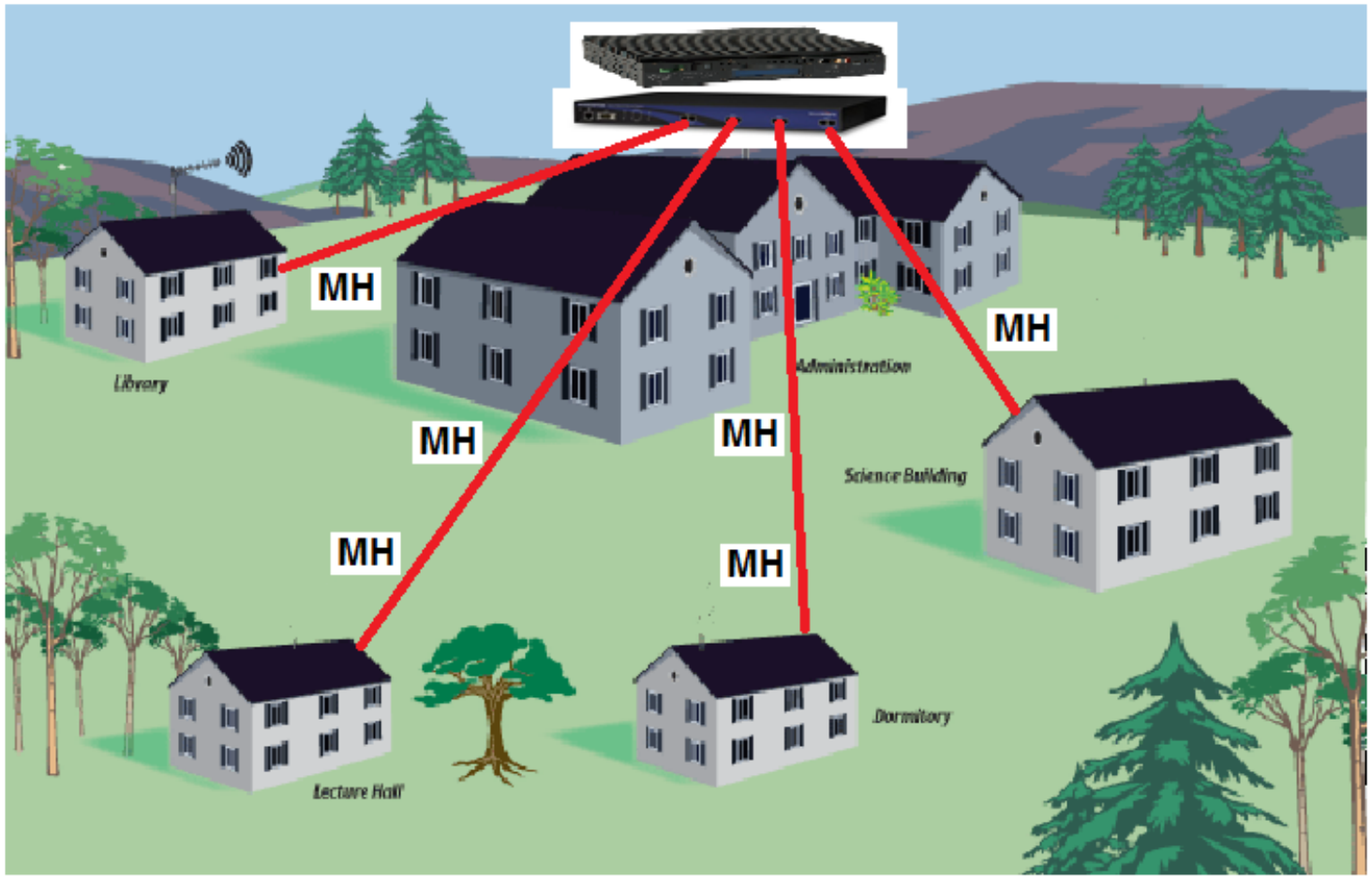
Zones 1000'+ Manholes Present

- Admin building would be the head end and home to the Interceptor Hardware as well as the MPS Sensor Controller
- Each Building would have a dedicated zone, consisting of a physical loopback at distant location (No hardware Needed)
- Each zone would need MPS sensors at the vulnerable Manhole locations; In addition the Interceptor zone alone without the sensors would be too long for a Alarm Response within 15 Min. Therefore the MPS sensors compliment the Interceptor to create smaller zones and identify exact locations of intrusion
- MPS and Interceptor ride on SM Fiber, these distances can be up to 25-35 miles if need be.
- This solution is integrated to CSIMS



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