SENSORFLOCK

HyperVigilant

Next-generation Security Eco-system

SENSORFLOCK

HyperVigilant

HyperVigilant™ is a Next-generation Wireless Security Eco-system for Access Control, Surveillance, Automation, Vigilance, and Compliance. Monitor and control the security of multiple locations and assets such as vehicles, and receive real-time alerts using a handheld device - functions as a cellphone.

A security system that spans the globe: monitor and control locations located thousands of miles away using a central console.

Consolidate your security needs into a single system: One security system for vehicles, homes, offices, and campuses.

SENSORFLOCK

HyperVigilant

A modular system with various sensing capabilities:

- Vibration
- Motion (animal and human recognition)
- Audio/Noise/Speech
- Vision/Video
- Environmental
  - Gas
  - Temperature
  - Humidity

continued.....

SENSORFLOCK

HyperVigilant

- Pressure
- Acceleration/Tilt/3-axis
- Position & Location
- Walk through metal detector
- Light

SENSORFLOCK

HyperVigilant

Components of the wireless security eco-system:

- Central Control Unit (CCU)

- Remote Sensor Node (RSN)

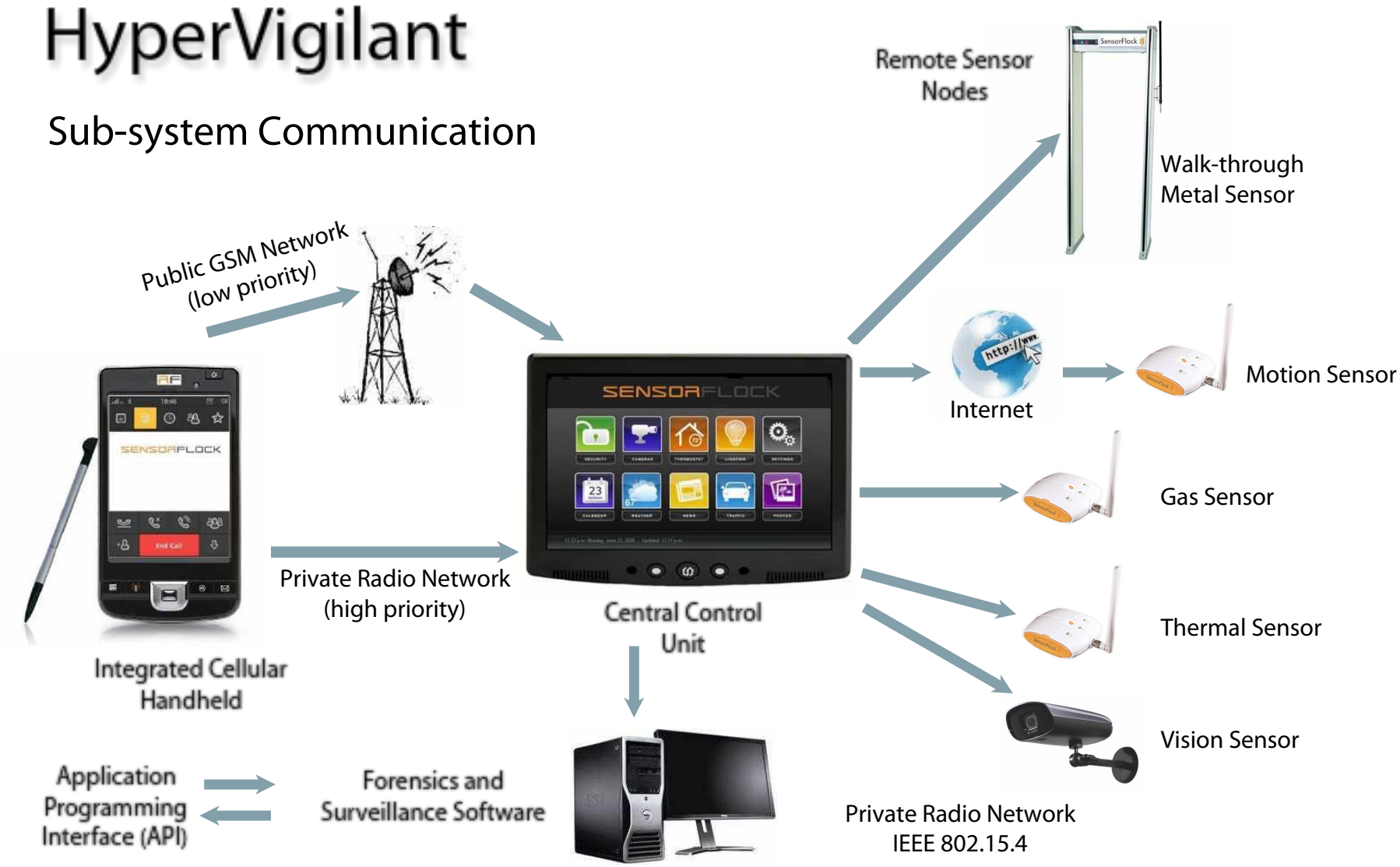
- Integrated Cellular Handheld (ICH)

- Forensics and Surveillance Software
- SensorFlock Hosted Web Service - optional
- Application Programming Interface (API) - Python, C

SENSORFLOCK

HyperVigilant

Sub-system Communication



SENSORFLOCK

HyperVigilant

Technology Brief

- Real-time Wireless Security System with native High-availability
- Wireless Miniature Sensors with Wire-line Fallback
- Low-power Battery Operated RF devices with Power-line Fallback
- Long Battery Life
- Hardware accelerated encrypted communication
- Self-healing Mesh Network with thousands of devices per network
- Based on a wireless standard offering extraordinary control, expendability, security, ease of use and the ability to be used in any country around the world
- Range up to 4 Kilometers expandable with additional nodes
- Real-time Full-duplex Audio and Video transmission
- Operating temperature range: -20°C to +80°C
- Tamper Detection and Reaction

SENSORFLOCK

HyperVigilant

Technology Brief

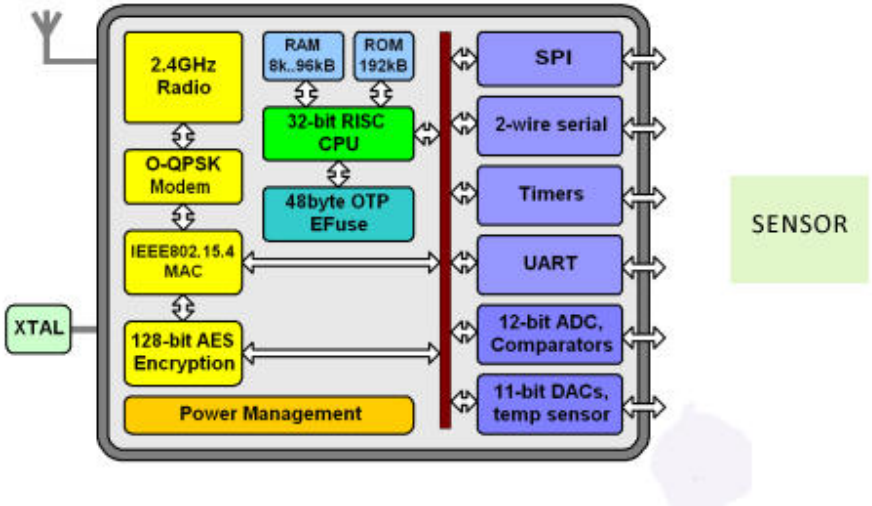
- Encrypted Code Space: not only prevents an attacker from reverse-engineering an application, but it also prevents someone from copying the device
- Based on IEEE 802.15.4 standard and follows strict IEEE guidelines to ensure long-term sustainability and reliable operation
- Operates within the 2.4Ghz frequency ISM band with 16 channels at 5Mhz separation
- Equipped with a 32bit MIPS core with on-chip hardware AES cryptographic coprocessor
- Self-organizing and self-healing dynamic mesh network
- Direct Sequence Spread Spectrum (DSSS) and uses an Offset Quadrature Phase Shift Keying (O-QPSK) with half-sine pulse shaping
- Full-duplex Voice/Speech transmission handheld to handheld using Adaptive Differential Pulse Code Modulation (ADPCM) at 8Khz with 64Kbps throughput
- Up to 128Kbps data throughput
- Location and Position Identification of every member device within the eco-system network

SENSORFLOCK

HyperVigilant

Sensor Node Architecture

This miniature device is equipped with a 2.4 GHz IEEE 802.15.4 compliant radio, a 32bit MIPS CPU, and an on-chip AES cryptographic unit for hardware-acceleration.



SENSORFLOCK

HyperVigilant

Central Control Unit Architecture

- Based on ARM Cortex CPU core
- Capacitive Touch Screen
- GPS (location sync with command & control)
- 802.15.4 for sensor node communication
- GSM for control over long-haul
- Ethernet for communication with Workstation
- Threat Meter (synced with command & control)
- Speaker/Microphone for communication with command & control

SENSORFLOCK

HyperVigilant

Integrated Handheld Architecture

- Based on ARM Cortex CPU core with Audio DSP
- Capacitive touch screen with stylus
- USB, Audio, and RS-232 interfaces
- GPS, A-GPS
- 802.15.4 for sensor node communication
- GSM for cellular communication over public networks
- Bluetooth
- WiFi
- Real-time Linux OS for reliability and faster response
- Voice/Speech over ADPCM
- Video over 802.15.4 (compressed)
- On-board crypto unit (AES)
- C and Python SDK for custom application development
- All the popular web applications: Facebook, Youtube, Google Maps, Gmail, Yahoo!, Instant Messaging, etc.

SENSORFLOCK

HyperVigilant

Comparison between Conventional Security Systems and HyperVigilant

Feature	Conventional Systems	HyperVigilant
Upto 4KM Range (40miles with LNA)	N	Y
Communication over public GSM Networks	F	Y
Fully Integrated Cellular Handheld	N	Y
Dynamically expanding sensor network	N	Y
Industrial grade for use by Military and Government	N	Y
Hardware Accelerated Cryptographic Core	N	Y
Jamming Resistant with Wireline Fallback	N	Y
Advanced Sensors: Thermal, MEMS, Metal, Gases	N	Y
Based on Probabilistic Intrusion Detection Model	N	Y
Detects Probable Intrusions, at Early Stages	N	Y
Unified Security System	N	Y
SDK for Custom Application/Component Development	N	Y
Linux & Microsoft Windows Integration	N	Y
Sophisticated and Miniature	N	Y
Easy & Flexible Deployment	N	Y
Active Redundancy	N	Y
Extremely low MTTR and MTBF	N	Y
Intelligent Control Unit with Application Server Backend	N	Y
Temper Detection with Device Failure Notification	F	Y
Incident Reports on Node's Location Change	N	Y
RFID Integration for Access & Asset Control	N	Y
Dynamic Radio Network Expansion	N	Y
Full-duplex Wireless Voice and Video Communication	N	Y

N = No, Y = Yes, F = Few have it

SENSORFLOCK

HyperVigilant

Hope you enjoyed learning about our next-generation experimental security product.

Please feel free to contact us..

info@sensorflock.com

Thank you.