Senior Design Project in Electrical & Computer Engineering

Coastal Surveillance Network

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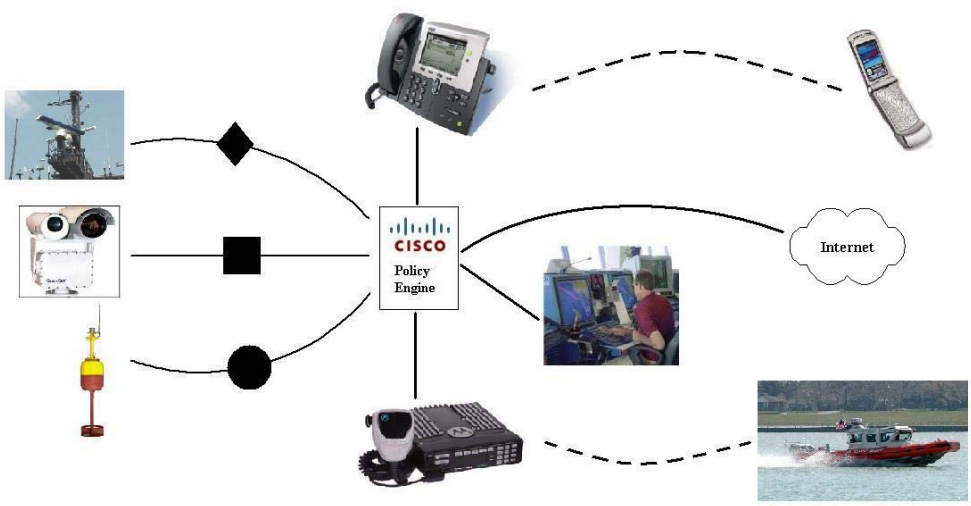
Problem Statement

There is no coastal surveillance network in use by the Coast Guard that will analyze data of sensors, determine if a threat or hazard exists, and provide automatic alerts and notifications as well as amplifying information to the appropriate people. The Coast Guard is in need of a system that will aid in the mission of port security and safety by both detecting threats and assisting in the response to them.

Objectives

- Sensor based safety and security monitoring
- All sensor data centrally processed
- Configurable and scalable to different sites
- Automated alerts and notifications
- Common communications link



Background

The United States Coast Guard employs different coastal surveillance systems to monitor vessel traffic in and out of U.S. ports and waterways. These systems consist of different sensors which watch standers interpret data from to determine if threats or hazards exists. The limitations of the current surveillance systems are the systems do not analyze the sensor data internally and communications interoperability amongst agencies does not exist.

Design

•Cisco IPICS policy engine

- Automated notification and alert rules
- Communications link = Interoperability

•Black Box sensor data converters