



# Command, Control, and Communications Engineering Center



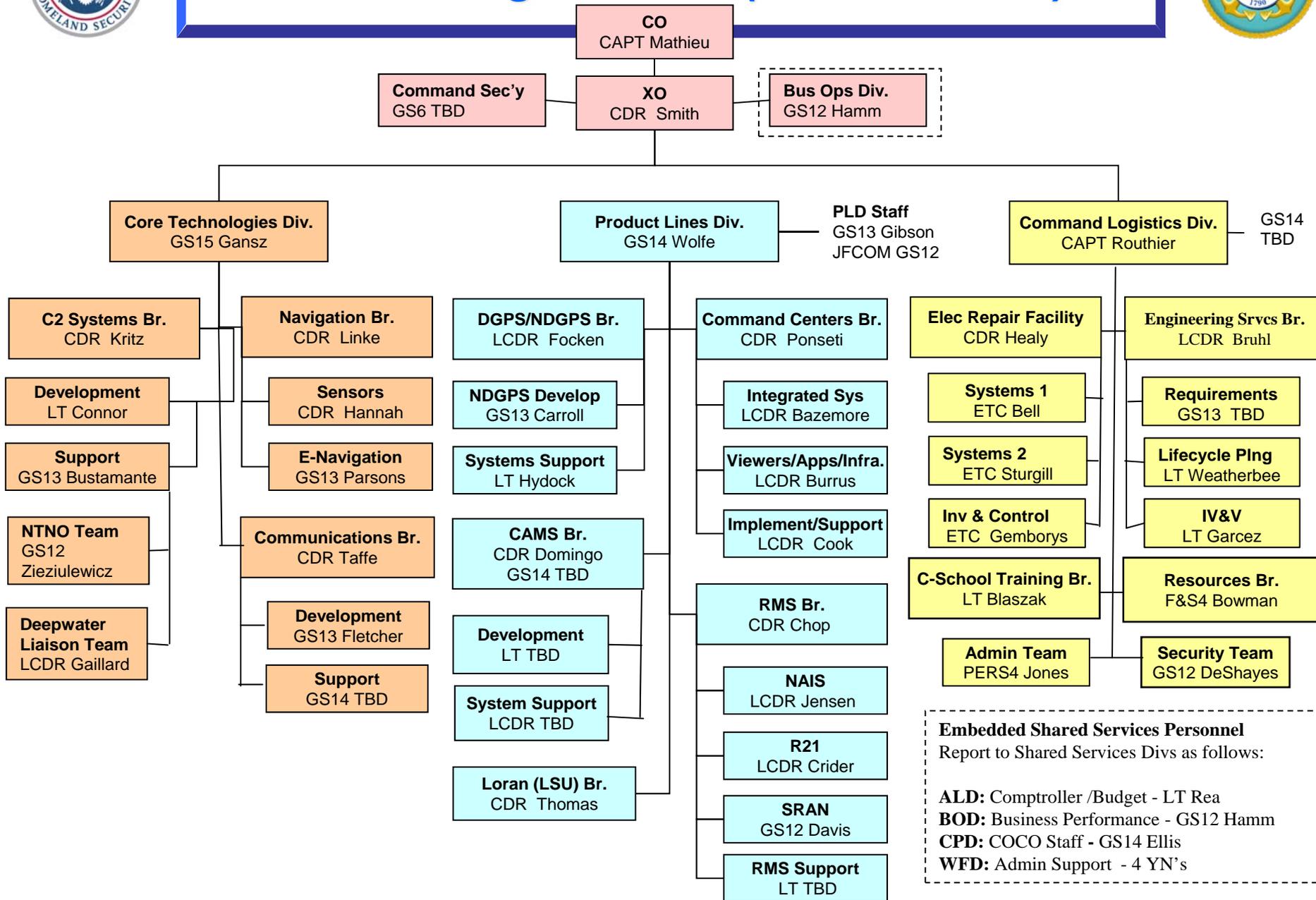
## Product Line, Core Technology, Command Logistics



July 2010



# C3CEN Organization (Summer 2010)



**Embedded Shared Services Personnel**  
Report to Shared Services Divs as follows:

**ALD:** Comptroller /Budget - LT Rea  
**BOD:** Business Performance - GS12 Hamm  
**CPD:** COCO Staff - GS14 Ellis  
**WFD:** Admin Support - 4 YN's





# Command Centers Product Line





# ***Command Centers Product Line***



- **Product Line Manger – CDR Joe Ponseti**
- **CC PL Initiatives for 2010:**
  - WatchKeeper Segment 1: pre-deployment & hardware installation thru FY11
  - Replace unclass COP infrastructure
  - CC relocation projects: NC, Puget Sound, Astoria, San Fran & NOLA
  - WatchKeeper Segment 2: planning and development
  - VTS 4.6 upgrade at San Fran & Seattle



# DGPS Product Line





## ***DGPS Product Line***



- **Product Line Manager** – LCDR Mark Focken
- **DGPS PL Initiatives for 2010:**
  - DGPS MF Transmitter Replacement (27 installs scheduled FY10)
  - DGPS Product Line Standup (MOC June 2010)
  - Last NCS software release July 2010 then sustainment. Initiative to integrate NCS with WatchKeeper.



# Remote Mission Systems Product Line





# Remote Mission Systems Product Line



- **Product Line Manager** – CDR Joe Chop
- **RMS PL Mission:** *The Remote Mission System Product Line provides, delivers, & maintains fixed facility VHF communications, nationwide automatic identification of vessels in harbors and harbor approaches, and electronic aids to navigation in support of the 11 CG missions described in the Homeland Security Act of 2002 and the DCMS Mission Support Handbook of 2010.*
- **RMS PL Major Systems:**
  - **NAIS** – Nationwide Automatic Identification System
  - **Rescue 21 (R21)** – Leading edge Very High Frequency (VHF) fixed facility communication network providing capability to conduct search & rescue (SAR)
  - **National Distress System (NDS)** – Legacy VHF fixed facility communication network providing capability to conduct search & rescue (SAR)
  - **Electronic Short Range Aid to Navigation (e-SRAN)** – includes sound signals, sound signal controllers, lighthouse control & monitor systems, range light controllers, etc



# Remote Mission Systems Product Line



- **Location of RMS PL Systems:**

- **NAIS:** Remote sites located in the continental U.S., Alaska, & Hawaii. System Operations Center (SOC) located in Alexandria VA. NAIS data used by daily by CG Sectors, Districts, Areas, and HQ command centers.
- **R21:** Remote sites located in the continental U.S. and Hawaii. Control consoles used by CG Sectors and Stations.
- **NDS:** Remote sites located in Alaska and along the Mississippi River and it's major tributaries. Control consoles used by CG Sectors and Stations in CG District Eight.
- **SRAN:** Remote sites located throughout Federally defined navigable waters including harbor and harbor approaches (HHA) in the continental U.S., Alaska, and Hawaii.



## *Remote Mission Systems Product Line*



- **Potential Products & Services required for RMS PL Systems:**
  - **NAIS:** Contract maintenance (organization and depot) for NAIS remote sites. Replacement and/or upgrade of AIS hardware including AIS base stations. Contract system administration of NAIS servers & engineering mock-ups.
  - **R21:** Contract maintenance of R21 remote sites, R21 work stations, & R21 consoles. Replacement and/or upgrade of R21 hardware and software.
  - **NDS:** Contract maintenance of NDS remote sites and NDS consoles. Replacement and/or upgrade of NDS hardware and software.
  - **SRAN:** Contract fabrication and/or repair of electronic aid to navigation systems.



## *Remote Mission Systems Product Line*



- **Anticipated major programs or projects in FY11 – FY13 for RMS PL Systems:**
  - **NAIS:**
    - » Nationwide contract maintenance for NAIS remote sites.
    - » Replacement and/or upgrade of AIS hardware including AIS base stations.
  - **NDS:**
    - » Maintenance of NDS remote sites and NDS control consoles.
    - » Replacement/upgrade of NDS control consoles
    - » Upgrade and/or relocation of NDS remote sites.
  - **SRAN:**
    - » Fabrication of Remote Sound Signal Control systems
    - » Installation of Remote Sound Signal Control systems. or repair of electronic aid to navigation systems.



# CAMS Product Line





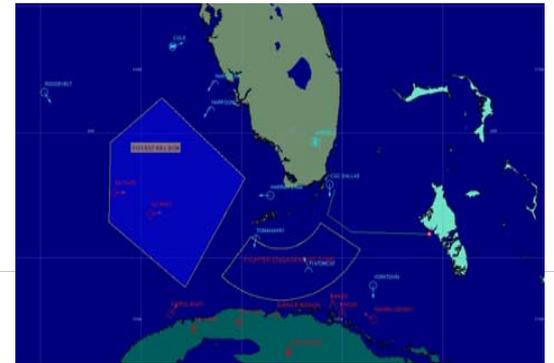
## ***CAMS Product Line***



- **Product Line Manager: CDR Romy Domingo**
- **CAMS PL Initiatives for 2010:**
  - Stand up CAMS Product Line at C3CEN
  - Transition CAMS SDA/SSA responsibilities from TISCOM to C3CEN
  - HF Antenna Recap (3 antennas scheduled for FY 10. 1 NOLA, 2 CAMSLANT)
  - Recap HF 80 and RF-755 with RT-2200 transceivers COMSTA Boston (8), CAMSLANT (12) and CAMSPAC(8)
  - Relocate COMSTA Kodiak's HF ALE network and GMDSS listening guard from Attu to Shemya due to LORSTA closures



# Command and Control Core Technology





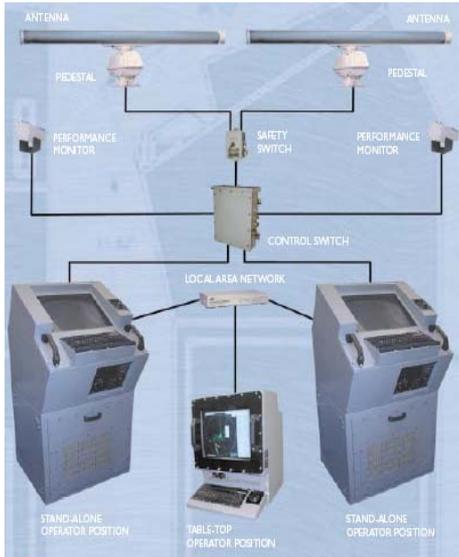
# ***Command and Control Core Technology***



- **Core Technology Manager – CDR Amy Kritz**
- **Command and Control CT Initiatives for 2010 :**
  - SEAWATCH-FRC prototype and delivery
  - SEAWATCH-378 development
  - Integration of SEAWATCH and CGC2
  - SCCS-110 for PATFORSWA cutters
  - C3CEN/ALC partnership
  - MSP proposal
  - Legacy Deepwater sustainment



# Navigation Core Technology





# *Navigation Core Technology*



- **Core Technology Manager – CDR Thomas Linke**
- **Navigation CT Initiatives for 2010:**
  - Vega INS delivery to SeaWatch
  - AN/SPS-73 hardware refresh prototype
  - IMO compliant high power radar prototypes



# Communications Core Technology





# Communications Core Technology



- **Core Technology Manager: CDR Michael Taffe**
- **RF Comms CT Initiatives for FY10:**
  - Transition RF Comms SDA/SSA responsibilities TISCOM to C3CEN (begin planning lab transition)
  - WMEC (210 and 270) fleet MCX-1000 recap
  - Short Range Communications Systems Upgrade (SRCUS)
  - Complete GSB HF radio recapitalization (4 remaining 210' cutters)
  - VHF Over The Air ReKeying (OTAR) roll out with consolidated code plug.



# Training





# Training



- **Branch Chief: LT Richard Blaszak**
- **Courses:**
  - 13 Class “C” Schools (75 classes per year)
  - 3 deployable courses (VEGA/SCCS/Watchkeeper)
- **Other initiatives:**
  - Development of Just-in-time training for Seawatch
  - Development of Just-in-time training for Watchkeeper
  - Analysis for the new DGPS Transmitter
- **Student Throughput (annual)**
  - 538 resident “C” School Students
  - 631 students trained at their units

# USCG

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## Enhanced Mission C4IT Capabilities EMC<sup>2</sup>



## Command, Control, and Communications Engineering Center



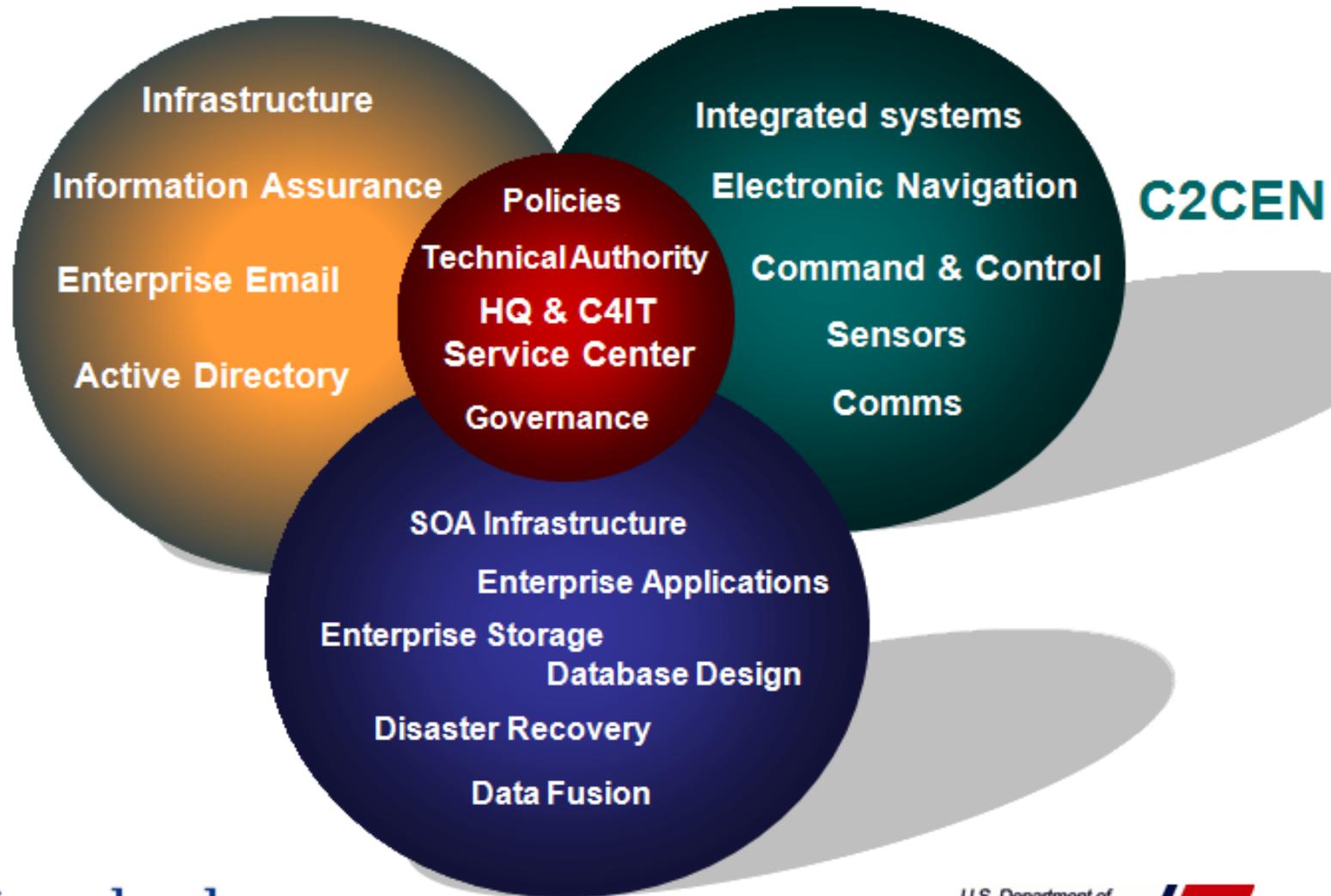
Homeland  
Security

U.S. Department of  
Homeland Security  
**United States  
Coast Guard**



# CG-6 Combined Spheres of Influence

**TISCOM**



**C2CEN**

**OSC**



**Homeland  
Security**

U.S. Department of  
Homeland Security  
**United States  
Coast Guard**





**Strategic Operations**  
(HQ, OP Com/ District)

**Current C4IT Inventory**

**Tactical Operations**  
(Sectors)

**Afloat & Airborne Ops**

Integrated Systems

Client Based/ Web Applications

Web Applications

**CG-C2**  
**GCCS-J**

**SAROPS**  
**Seahawk Portal**  
**Oracle Financials**  
**C2PC**  
**MISLE**  
**MHSOPS (MASI)**  
**MAGNet**

**WWW**  
**SANS**  
**WebCOP**  
**Homeport**  
**CGMIX**

CG Enterprise IT Infrastructure

**VTS/PCSS**  
**JPSC2\***  
**ASU**  
**R21**

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S

**SAROPS**  
**VISTOOLS**  
**Seahawk Portal**  
**C2PC**  
**MISLE**  
**Enterprise GIS**  
**MHSOPS (MASI)**

**WWW**  
**SANS**  
**WebCOP**  
**Homeport**  
**CGMIX**

CG Enterprise IT Infrastructure

**SCCS**  
**CASPER**  
**RF Comms**  
**Vega\***  
**CGC2\***

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**CAP'N**  
**MISLE**  
**CGMS**  
**Vega\***  
**Aldebaran\***  
**C2PC**

**WWW**  
**SANS**  
**WebCOP**  
**Homeport**  
**CGMIX**

CG Enterprise IT Infrastructure

Representative sample of C4IT Capabilities  
not intended to be comprehensive

\* In Development

**Integrated Systems**

**Client Based/ Web Applications**

**Web Applications**

Deepwater AC&I

Strategic Operations

VTS/PCSS CONVERGENCE ELEC O&E

Tactical Operations

IOC CMD21 AC&I

Afloat & Airborne Operations

Deepwater AC&I

CGC2  
GCCS-J

VTS/PCSS  
JPSC2\*  
ASU  
R21

SCCS  
CASPER  
RF Comms  
Vega\*  
CGC2\*

SAROPS  
Gen O&E

CWSS

CWSS

VEGA  
ELEC  
O&E

CWSS

SAROPS  
Seahawk Portal  
Oracle Financials  
C2PC  
MISLE  
MHSOPS  
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SAROPS  
VISTOOLS  
Seahawk Portal  
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Aldebaran\*  
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AC&I

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COP RECAP  
ELEC  
O&E

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WebCop  
C/JMTK  
Gen O&E

NAIS  
Viewer  
AC&I

VEGA  
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**SYSTEM FUNDING SOURCES**

MAJOR ACQUISITIONS

Elec O&E

GEN O&E



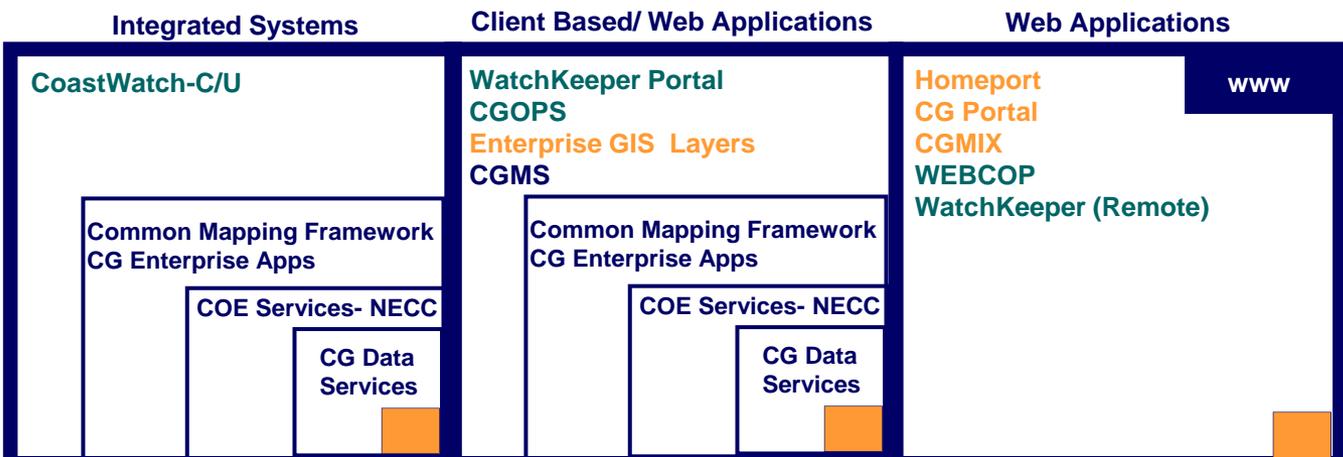
**Homeland Security**

U.S. Department of  
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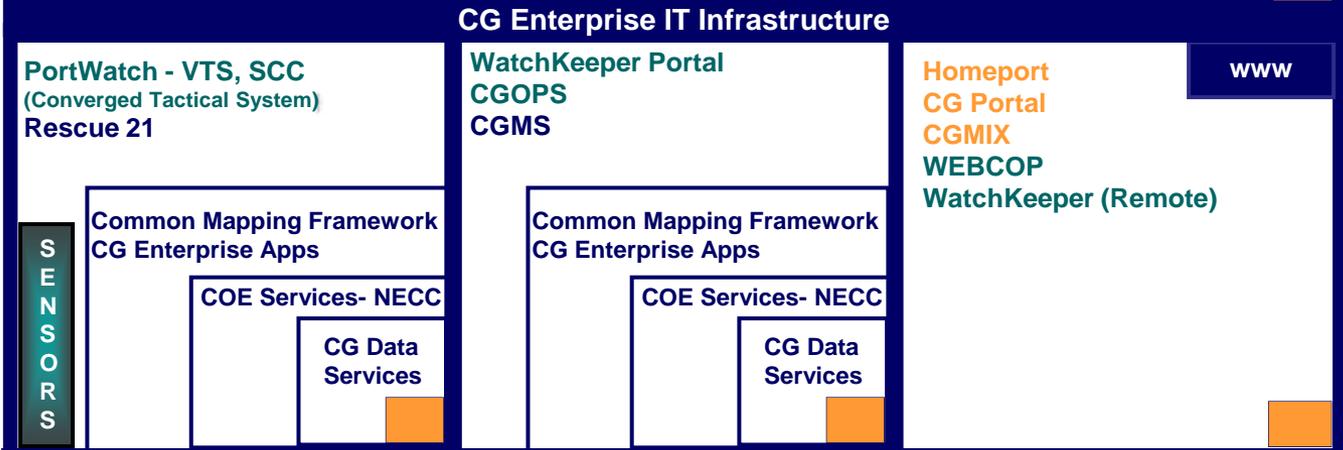




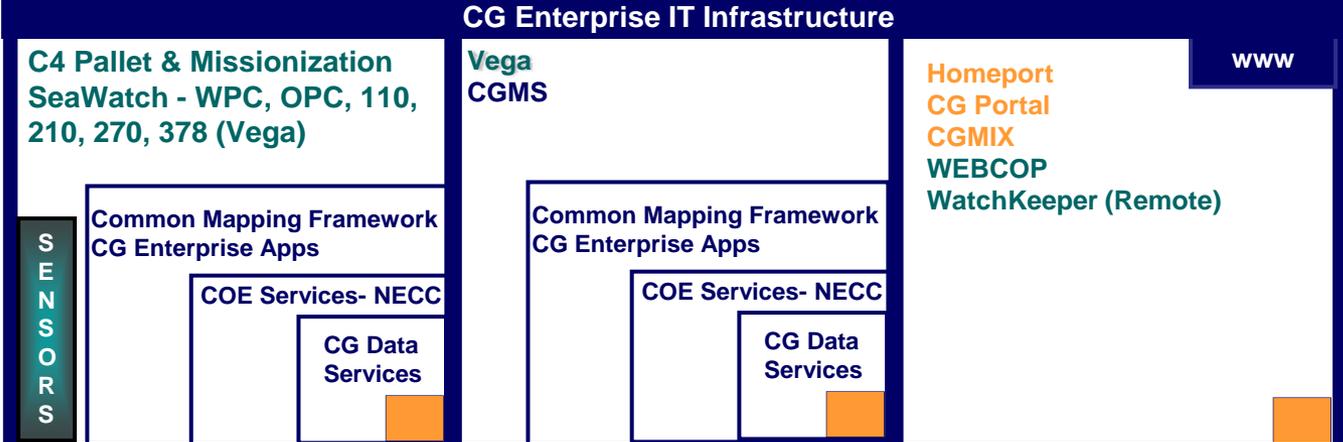
# COASTWATCH



# PORTWATCH



# SEAWATCH



CG ESB

Representative sample of C4ITCapabilities  
not intended to be comprehensive

CG Enterprise IT Infrastructure

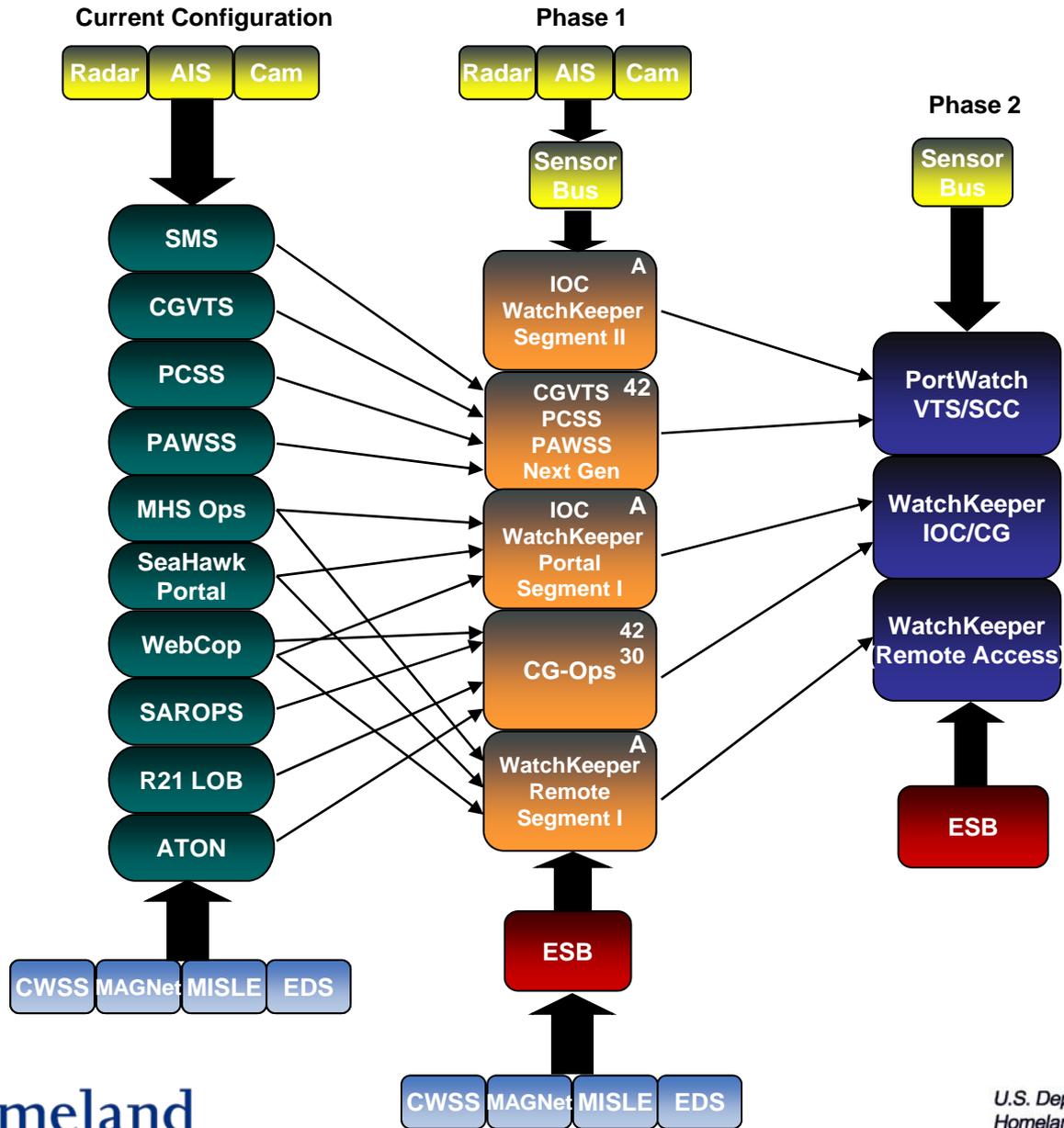


## *EMC<sup>2</sup> Major Components*



- **CoastWatch** (HQ, Area, District) - Strategic enhanced mission command and control across all deepwater and legacy command center systems. **Example: Common Operating Picture (COP)**
- **PortWatch** (Sector-Local) - Scalable tactical command and control system with integrated sensors, display, analysis, and sharing capabilities/features that is tailor-able to specific port requirements. **Example: Search and Rescue Optimal Planning System (SAROPS)**
- **SeaWatch** (Ship/Aircraft Operations) - Tactical enhanced mission command and control across all deepwater and legacy afloat and airborne assets. **Example: Shipboard Command and Control System (SCCS)**

# PortWatch Strategy

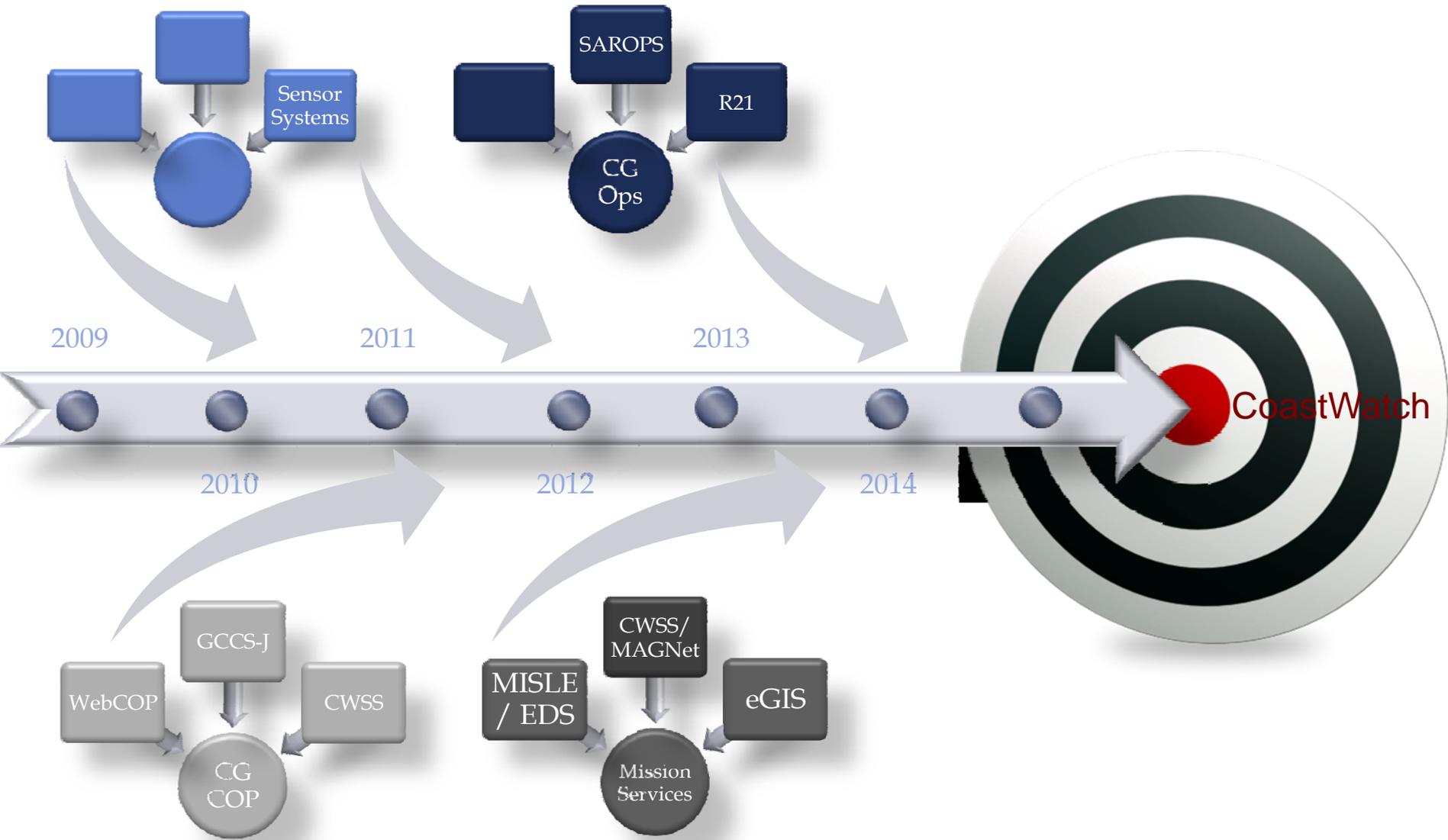


Homeland Security

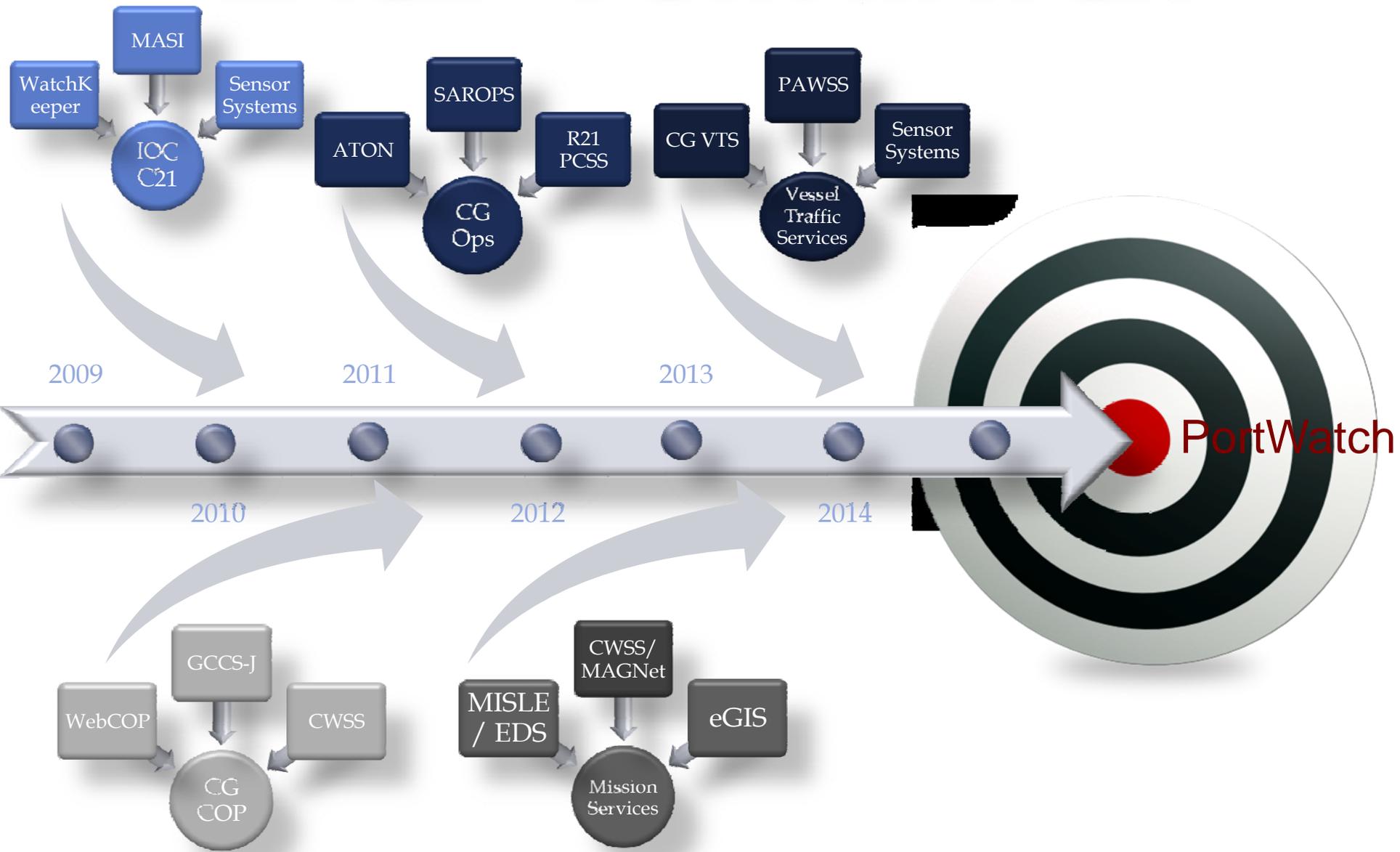
U.S. Department of  
Homeland Security  
United States  
Coast Guard



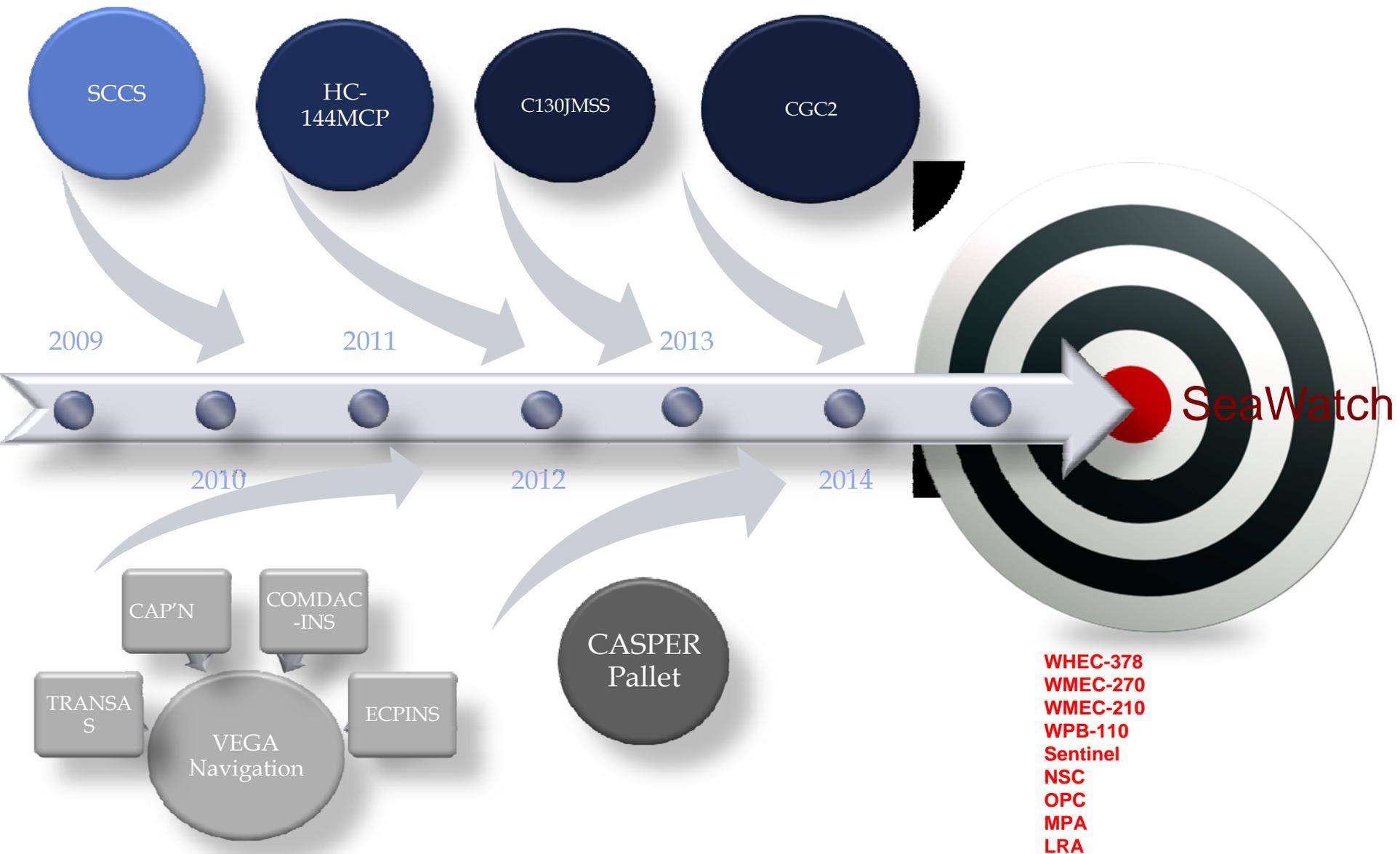
# EMC2 - COASTWATCH



# EMC2 - PORTWATCH



# EMC2 - SEAWATCH





## *Challenges*



- Project Management from HQ-details from CG-6,7,9
- New, more onerous process cost money & FTE (C&A, ITAR, etc.)
- Stand up of PLs and CTs
- Communications addition to C2CEN to create C3CEN
- Spending Money
- Building Space



## *Victories*



- ALC C3CEN Relationship
- SeaWatch Sentinel C2 system is afloat NOW
- SeaWatch development and CG-9 buy in
- WatchKeeper-standardization of command centers
- Approved half funded DMSI
- Finalist in Alexander Hamilton Award
- Single Standard Navigation System (VEGA)